

**MOST URGENT**  
**VIDHAN SABHA QUESTION**

**GOVERNMENT OF NCT OF DELHI**  
**PUBLIC WORKS DEPARTMENT**  
**5<sup>TH</sup> LEVEL "B" WING**  
**DELHI SECRETARIAT: NEW DELHI**

**F.No.(108)/PWD-II/VSQ/Un-Starred(35)/2021/12147-48**      **Date: 31/12/21**

To

The Dy. Secretary,  
Question Branch,  
Delhi Legislative Assembly,  
Question Branch, Old Secretariat,  
New Delhi- 110054.

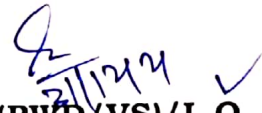
**Sub: - Reply of Legislative Assembly (Un-Starred) Question No. 35 raised by Sh. Vijender Gupta, Hon'ble MLA during winter session 2021 due for 03/01/2022.**

Sir,

Kindly refer to your letter No. F. 11(B-1) VI/2020-25/VSS/Question Branch/0216 dated 24/12/2021 on the subject cited above. In this regard, please find enclosed herewith 100 copies of reply of Vidhan Sabha Question as mentioned above for necessary action at your end. Further, the copy of the same has also been sent through e-mail.

Yours faithfully,

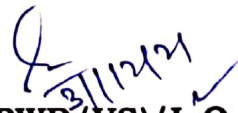
Encl: As above

  
(Dy. Secretary (PWD/VS)/L.O.  
011-23392589

**F.No.(108)/PWD-II/VSQ/Un-Starred(35)/2021/12147-48**      **Date: 31/12/21**

Copy for information to:-

1. OSD to Hon'ble Minister (PWD)

  
Dy. Secretary (PWD/VS)/L.O.  
011-23392589



विभाग का नाम :- लोक निर्माण विभाग, दिल्ली सरकार  
विभाग का पता :- 5वाँ तल, बी-विंग, दिल्ली सचिवालय,  
इन्द्रप्रस्थ संपदा, नई दिल्ली-110002.

अतारांकित प्रश्न संख्या: 35

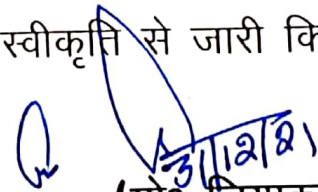
दिनांक: 03.01.2022

प्रश्नकर्ता का नाम: श्री विजेंद्र गुप्ता

क्या लोक निर्माण विभाग मंत्री यह बताने की कृपा करेंगे कि:

क्र.स.	प्रश्न	उत्तर
क	लाल जैन मंदिर से फतेहपुरी मस्जिद तक चाँदनी चौक के पुनर्विकास के संबंध में सिविल एवं इलेक्ट्रिकल कार्यों से संबंधित अवार्ड लेटर तथा संपूर्ण अनुबंध की प्रतिलिपि उपलब्ध कराएँ;	संबंधित कार्य का अवार्ड लेटर तथा संपूर्ण अनुबंध की प्रतिलिपि पेज नं० 1 से 251 इस पत्र के साथ संलग्न किया जाता है। CD संलग्न है।
ख	उक्त कार्य से संबंधित टेंडर फाइल में उपलब्ध सभी दस्तावेज व ऑफिशियल कमेंटशीट, मेजरमेंट बुक/ईएमबी, रेट एनालिसिस, संबंधित आईएस कोड के अनुसार टेस्ट रिपोर्ट एवं सभी अतिरिक्त आइटमों की प्रतिलिपि उपलब्ध कराई जाए; और	संबंधित कार्य का टेंडर फाइल में उपलब्ध दस्तावेज, Measurement Book रेट Analysis, Test Report जो काफी विस्तृत हैं, सभी संबंधित दस्तावेजों को जल्दी ही उपलब्ध करा दिये जाएंगे।
ग	उक्त निविदा में ठेकेदार को किए गए भुगतान का पूर्ण विवरण दें?	उक्त निविदा में ठेकेदार को अभी तक 58.00 करोड़ रुपये का भुगतान किया जा चुका है।

यह उत्तर माननीय मंत्री, लोक निर्माण विभाग की स्वीकृति से जारी किया गया है।



(मो० लियाकत मोडल)

सहायक निदेशक (लो०नि०वि०)

संलग्न: CD

MD. LIAKAT MONDAL  
ASSTT. DIRECTOR, PWD  
Govt. of NCT of Delhi  
Delhi Secretariat, IP Estate,  
New Delhi-110002

## Copy of Agreement.

करारनामा सं. / Agreement No. 90/EE/SRDP-I/2018-19कार्य का नाम / Name of Work : Redevelopment of Chandni Chowk  
from Lal Jain Mandir to Fatehpur Mosque (SH. Civil & Electrical  
Work)ठेकेदार का नाम / Name of Contractor : M/S MIA Construction Pvt. Ltd.अनुमानित लागत/Estimated Cost : Rs. 382266940 / (Civil Rs. 336127639 + Electrical Rs. 46139301)निविदा राशि/Tendered Amount : Rs. 277908065/-प्रतिभूति निक्षेप राशि/Security Deposit : Rs. 25% of T.Aअग्रिम राशि/ Earnest Money : Rs. 4822669/-निष्पादन प्रत्याभूति/Performance Guarantee : 5% of T.A

खण्ड १२ के अन्तर्गत प्रतिशत/

Percentage under Clause 12 : 227.30% belowसमय निर्धारित/ Time Allowed : 9 Month.प्रारम्भ की तिथि / Date of Start : 11.03.2019समाप्ति की तिथि / Date of Completion : 10.12.2019

वास्तविक समाप्त तिथि

पानी की शर्त / Condition of Water :

ठेकेदार द्वारा दी गई छूट / Rebate offered by the Contractor :

प्रमाणित किया जाता है कि इस करारनामे में शुद्धि पर्चियों सहित / Certified that this Agt.  
Contains 424 Pages पूरा है.Marked as 1 To 424कुल पृष्ठ संख्या Total Pages 424 के साथ/ Including  
शुद्धि पर्चि / Correction Slips up to dateकार्यपालक अभियन्ता  
आर.डी. परि. नं. १-१, लो.नि.वि.  
लोक नायक सेतू पश्चिमी तट,  
नई दिल्ली-110002

Handwritten signature and initials.

लो.नि.वि. (सं. ८) १०००१  
लोक नायक सेतु काला  
नई दिल्ली-110002

श्री ००१८ कालागंगा  
१०००१ (१०००१) श्री ००१८  
१०००१ (१०००१) श्री ००१८  
१०००१ (१०००१) श्री ००१८



## NOTICE INVITING TENDER

Name of work:- Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work).

NIT No. :- 98/EE/SRD-I/PWD/2018-19

ESTIMATED COST :-Rs. 38,22,66,940/- (Civil Rs. 33,61,27,639/- + Elect. Rs. 4,61,39,301/-)

EARNEST MONEY :- Rs. 48,22,669/-

SECURITY DEPOSIT :- 2.5% of Agreement Amount

PERFORMANCE GUARANTEE:-5% of Agreement Amount

TIME ALLOWED :- 09 (Nine) Months

CERTIFIED THAT THIS NIT CONTAINS 226 PAGES

A.E (P)

E.E (P)

SE/Project

NIT amounting to Rs. 38,22,66,940/- (Rupees Thirty Eight Crore Twenty Two Lacs Sixty Six Thousand Nine Hundred Forty Only) is, hereby, approved.

Vijay Singh  
Assistant Ex. Engineer(P)

Praveen Kathuria  
Executive Engineer(P)

CHIEF ENGINEER  
EAST ZONE, PWD, GNCTD  
NEW DELHI

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कार्यपालक अभियन्ता  
लो.नि.वि. (दि.स.) स.अनु.मं. एम-241  
लोक नायक सेक्टर पश्चिमी तट  
नई दिल्ली-110002

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क- EE/उकेदार Cont.

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लोक नायक सेतू पश्चिमी तट  
नई दिल्ली-110002

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# PART - A

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लोक नायक सेतु पश्चिमी तट  
नई दिल्ली-110002

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## 2.0 CHECK LIST FOR CONTRACTORS FOR SUBMISSION OF TENDERS

1. The bidders should read all the instructions, terms & conditions, contract clauses, nomenclature of items, specifications etc. contained in the tender documents very carefully before quoting the rates. The bidder should also read the general conditions of contract for CPWD works 2014 with upto date correction slips available with M/s. Jain Book Agency, Connaught Place, New Delhi, which will form a part of the Agreement with upto date correction slips.
2. Tender should be signed and witnessed on page 16 of tender documents indicating full address of witness and the names of signatories after award of work.
3. The agency shall quote the percentage (%) above/below the estimated cost put to tender both in words and figures.
4. The contractor shall quote his rates keeping in mind the specifications terms & conditions, additional conditions and special conditions etc. and nothing shall be payable extra whatsoever unless otherwise specified.
5. The contractor shall also furnish performance guarantee of 5% of the tendered amount in addition to the other deposits mentioned elsewhere in the contract for proper performance of the agreement. The performance guarantee shall be in the shape of FDR or Bank guarantee as per Performa given in Annexure-A on page 178-179
6. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney should be produced with the tender and it must be disclosed that the firm is duly registered under the Indian partnership act, 1952.
7. GST etc. as applicable shall be paid by the contractor himself. The department shall deduct the TDS as applicable from the Running Account bills. The contractor shall quote his rates considering all such Taxes.
8. The agencies shall get registered with works contract cell of GST/under Govt. of NCTD and submit valid registration certificate from works contract cell of GST at the time of tendering.
9. The tender, which is not duly signed by authorized signatory or is conditional shall be treated as non-responsive and shall be summarily rejected.

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 कार्यपालक अभियन्ता  
 लो.नि.वि. (दि.स.) रा.अ.प. रा. 241  
 लोक नायक रोड, नई दिल्ली-110092

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**PRESS NOTICE- (E-procurement)**

1. The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002 invites on behalf of President of India, online percentage rate tenders through e-tendering from (i) CPWD registered contractors enlisted in composite category (ii) Those of appropriate list of MES, BSNL and other state Govt. Departments dealing with buildings and roads and other experienced non registered contractors, who satisfy the criteria of execution of similar work upto 3.00 P.M. on 21.02.2019 for following work :-

S. No.	Name of Work	Estimated Cost	Earnest Money	Time allowed	Date of release of tender through e-procurement solution	Last Date and Time of receipt of tenders through e-procurement solution	Date and Time of opening of Tech. Part of tender	Date and Time of opening of Financial Part of tender
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)	Rs. 38,22,66,940/- (Elect.- Rs. 4,61,39,301/- + Civil- Rs. 33,61,27,639/-)	Rs. 48,22,669/-	09 Months	06.02.2019	21.02.2019 Upto 3:00 P.M.	21.02.2019 at 3:30 P.M.	21.02.2019 at 04:00 P.M.
NIT No. 98/EE/SRD-I/PWD /2018-19					TENDER ID. 2019 PWD 167676 1			

1.1 The work is estimated to cost Rs. 38,22,66,940/- . This estimated cost, however, is given merely as a rough guide.

1.2 **For CPWD enlisted contractors :**

1.2.1 Appropriate registered contractor of CPWD of composite category.

1.3 **For Non-CPWD Registered Contractor**

1.3.1 Non registered agencies having the experience of building / road works as mentioned below:

- One work of Rs. 3058 Lakhs.  
Either / OR
- Two work of Rs. 2293 Lakhs.  
Either / OR
- Three work of Rs. 1529 Lakhs.

**Similar work shall means "Civil Road & Building Works".**

- The value of executed work shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion of work to **last date submission of bids.**
- The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
- The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract can be seen on website <https://govtprocurement.delhi.gov.in/> free of cost.
- After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified.

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*Amended*

कार्यपालक अभियंता  
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लोक नयक सेतु परियोजना तट  
110002

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5. The time allowed for carrying out the work will be **09 Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, indicated in the bid documents.

List of Documents to be uploaded within the period of bid submission :-

**(A) For CPWD enlisted contractor**

- (i) Earnest money **Rs. 48,22,669/-** in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at Call receipt or Fixed Deposit Receipt drawn in favour of "**The Executive Engineer, M-241, PWD, GNCTD, Delhi.**" that earnest money can be deposited in the division office of any Executive Engineer of PWD/CPWD, Delhi EMD along with its receipt deposited in any Div. office shall be scanned and uploaded in the e- tendering website within the period of bid submission. The tender inviting Executive Engineer will call for original EMD of the L1 tenderer from EMD receiving Executive Engineer immediately. A part of Earnest Money is acceptable in the form of Bank Guarantee also. In such case, 50% of the Earnest Money or Rs. 20 Lacs, whichever is less will have to be deposited in the shape prescribed above, and balance amount of earnest money can be accepted in the form of Bank Guarantee issued by a scheduled bank which is to be scanned and uploaded by the intending bidders.

**Note: Executive Engineer PWD(The Copy of receipt of deposit of original EMD documents shall be issued from the place which the office of receiving division office is situated).**

- (ii) Certificate of registration of GST and Acknowledgement of up to date filed return.  
(iii) Scanned copy of PAN Number, as issued by I.T. department.  
(iv) Scanned copy of Valid CPWD Registration certificate of appropriate category.  
(v) Scanned copy of applicable licenses/registration of labour licenses with EPFO, ESIC and BOCW.  
(vi) Valid Electrical License. In case, the bidder does not possess valid electrical license in their/his name then they/he will have to submit an undertaking that they/he will either obtain a valid electrical license at the time of execution of electric work or will associate contractor of eligible class from electrical side having valid electrical license.

**(B) For Non CPWD Registered Contractor**

Those on the appropriate list of MES, BSNL, Railway and other state Govt. Department dealing with buildings and Roads and other experienced non registered contractors, who satisfy the criteria of execution of similar works, Provided they meet Eligibility Criteria as per 1.3.1.

- (i) Earnest money **Rs. 48,22,669/-** in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at Call receipt or Fixed Deposit Receipt drawn in favour of "**The Executive Engineer, The Executive Engineer, M-241, PWD, GNCTD, Delhi**" that earnest money can be deposited in the division office of any Executive Engineer of PWD/CPWD, Delhi in the e- tendering website within the period of bid submission. The tender inviting Executive Engineer will call for original EMD of the L1 tenderer from EMD receiving Executive Engineer immediately. A part of Earnest Money is acceptable in the form of Bank Guarantee also. In such case, 50% of the Earnest Money or Rs. 20 Lacs, whichever is less will have to be deposited in the shape prescribed above, and balance amount of earnest money can be accepted in the form of Bank Guarantee issued by a scheduled bank which is to be scanned and uploaded by the intending bidders.

**Note: Executive Engineer PWD (The Copy of receipt of deposit of original EMD documents shall be issued from the place which the office of receiving division office is situated).**

- (ii) Certificate of registration of GST and Acknowledgement of up to date filed return.  
(iii) Scanned copy of PAN Number, as issued by I.T. department.  
(iv) Scanned copy of Experience Certificate regarding satisfactorily completed similar works.  
(v) For similar works completed in Private Sector, TDS in support shall be uploaded for verification of work.  
(vi) Scanned copy of Affidavit that I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD/PWD, GNCTD in

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लोक नायक सेतू परियोजना  
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future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid).

- (vii) Scanned copy of applicable licenses/registration of labour licenses with EPFO, ESIC and BOCW.
- (viii) Valid Electrical License. In case, the bidder does not possess valid electrical license in their/his name then they/he will have to submit an undertaking that they/he will either obtain a valid electrical license at the time of execution of electric work or will associate contractor of eligible class from electrical side having valid electrical license.
- (ix) Scanned copy of original solvency to be uploaded (Note the banker should be any schedule bank as per RBI Act). It should have a solvency of 40% of Estimated Cost (not older than 6 months on the date of tender)
- (x) Scanned copy of average annual financial turnover during the last three years ending 31st March 2018 (Scanned copy of Audited balance sheet to be uploaded) at the time of submission mentioning financial turnover of last 3 years and of minimum 50% amount of estimated cost.
- (xi) Scanned copy of certificate from CA to be uploaded regarding not having incurred any loss in more than two years during the last five years ending 31st March 2018.

**Note:** However, certified copy of all the scanned and uploaded documents duly self attested on above shall have to be submitted by the lowest bidder only along with original receipt of deposited EMD of the scanned copy of EMD uploaded within a week physically in the office of The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002.

- (i) Further details can be seen at: <https://govtprocurement.delhi.gov.in>

**Executive Engineer  
SRD Division-I, PWD.**

**Note :-** Not to be printed below this line.

**\*\* -** To be filled by Executive Engineer

*Attested*  
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कार्यपालक अभियन्ता  
लो.नि.वि., (दिस) ल.अनु.मं. एम-241  
लोक नायक सेतू पश्चिमी तट  
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**GOVERNMENT OF NCT OF DELHI  
PUBLIC WORKS DEPARTMENT  
NOTICE INVITING TENDER**

1. The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002 invites on behalf of President of India, online percentage rate tenders through e-tendering from (i) CPWD registered contractors enlisted in composite category (ii) Those of appropriate list of MES, BSNL and other state Govt. Departments dealing with buildings and roads and other experienced non registered contractors, who satisfy the criteria of execution of similar work upto 3.00 P.M. on 21.02.2019 for following work :-

Name of work: Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)

The enlistment of the contractors should be valid on the last date of downloading.

In case the last date of downloading of tender is extended the enlistment of contractor should be valid on the original date of downloading.

- 1.1 The work is estimated to Cost Rs. 38,22,66,940/- This estimate, however, is given merely as a rough guide  
1.2 For CPWD enlisted contractors :  
Appropriate registered contractor of CPWD of composite category i.e. Class-1A & above.

**1.3 For Non-CPWD Registered Contractor**

- 1.3.1 Non registered agencies having the experience of building / road works as mentioned below:

- i. One work of Rs. 3058 Lakhs.  
Either / OR  
ii. Two work of Rs. 2293 Lakhs.  
Either / OR  
iii. Three work of Rs. 1529 Lakhs.

**Similar work shall means "Civil Road & Building Works".**

1. The value of executed work shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion of last date submission of bids.
2. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in-possession of all the documents required.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract can be seen on website <https://govtprocurement.delhi.gov.in/> free of cost.
4. After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified.
5. The time allowed for carrying out the work will be 09 Months from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, indicated in the bid documents.

**List of Documents to be uploaded within the period of bid submission :-**

**(A) For CPWD enlisted contractor**

- (i) Earnest money Rs. 48,22,669/- in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at Call receipt or Fixed Deposit Receipt drawn in favour of "The Executive Engineer, The Executive Engineer, M-241, PWD, GNCTD, Delhi" that earnest money can be deposited in the division office of any Executive Engineer of PWD/CPWD, Delhi EMD along with its receipt deposited in any division office shall be scanned and uploaded in the

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लोक नायक सेतु परियोजना तट  
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e-tendering website within the period of bid submission. The tender inviting Executive Engineer will call for original EMD of the L1 tenderer from EMD receiving Executive Engineer immediately. A part of Earnest Money is acceptable in the form of Bank Guarantee also. In such case, 50% of the Earnest Money or Rs. 20 Lacs, whichever is less will have to be deposited in the shape prescribed above, and balance amount of earnest money can be accepted in the form of Bank Guarantee issued by a scheduled bank which is to be scanned and uploaded by the intending bidders.

**Note: Executive Engineer PWD (The Copy of receipt of deposit of original EMD documents shall be issued from the place which the office of receiving division office is situated).**

- (ii) Certificate of registration of GST and Acknowledgement of up to date filed return.
- (iii) Scanned copy of PAN Number, as issued by I.T. department.
- (vii) Scanned copy of Valid CPWD Registration certificate of appropriate category.
- (iv) The Contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/Registration or proof of applying for obtaining labour licenses, Registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub contractor for the said work and Programme Chart (Time and Progress) within the period specified in Schedule F.
- (v) Scanned copy of applicable licenses/registration of labour licenses with EPFO, ESIC and BOCW.
- (vi) Valid Electrical License. In case, the bidder does not possess valid electrical license in their/his name then they/he will have to submit an undertaking that they/he will either obtain a valid electrical license at the time of execution of electric work or will associate contractor of eligible class from electrical side having valid electrical license.

**(B) For Non CPWD Registered Contractor**


Those on the appropriates list of MES, BSNL, Railway and other state Govt. Department dealing with buildings and Roads and other experienced non registered contractors, who satisfy the criteria of execution of similar works, Provided they meet Eligibility Criteria as per 1.3.1.

- (i) Earnest money Rs. 48,22,669/- in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at Call receipt or Fixed Deposit Receipt drawn in favour of "The Executive Engineer, The Executive Engineer, M-241, PWD, GNCTD, Delhi" that earnest money can be deposited in the division office of any Executive Engineer of PWD/CPWD, Delhi in the e-tendering website within the period of bid submission. The tender inviting Executive Engineer will call for original EMD of the L1 tenderer from EMD receiving Executive Engineer immediately. A part of Earnest Money is acceptable in the form of Bank Guarantee also. In such case, 50% of the Earnest Money or Rs. 20 Lacs, whichever is less will have to be deposited in the shape prescribed above, and balance amount of earnest money can be accepted in the form of Bank Guarantee issued by a scheduled bank which is to be scanned and uploaded by the intending bidders.

**Note: Executive Engineer PWD (The Copy of receipt of deposit of original EMD documents shall be issued from the place which the office of receiving division office is situated).**

- (ii) Certificate of registration of GST and Acknowledgement of up to date filed return.
- (iii) Scanned copy of PAN Number, as issued by I.T. department.
- (iv) Scanned copy of Experience Certificate regarding satisfactorily completed similar works.
- (v) For similar works completed in Private Sector, TDS in support shall be uploaded for verification of work.
- (vi) Scanned copy of Affidavit that I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD/PWD, GNCTD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid).
- (vii) Scanned copy of applicable licenses/registration of labour licenses with EPFO, ESIC and BOCW.
- (viii) Valid Electrical License. In case, the bidder does not possess valid electrical license in their/his name then they/he will have to submit an undertaking that they/he will either obtain a valid electrical

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license at the time of execution of electric work or will associate contractor of eligible class from electrical side having valid electrical license.

- (ix) Scanned copy of original solvency to be uploaded (Note the banker should be any schedule bank as per RBI Act). It should have a solvency of 40% of Estimated Cost (not older than 6 months on the date of tender)
- (x) Scanned copy of average annual financial turnover during the last three years ending 31st March 2018 (Scanned copy of Audited balance sheet to be uploaded) at the time of submission mentioning financial turnover of last 3 years and of minimum 50% amount of estimated cost.
- (xi) Scanned copy of certificate from CA to be uploaded regarding not having incurred any loss in more than two years during the last five years ending 31st March 2018.

**Note:** However, certified copy of all the scanned and uploaded documents duly self attested on above shall have to be submitted by the lowest bidder only along with original receipt of deposited EMD uploaded, within a week physically in the office of the in the office of The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002

- 6 Tender shall be valid for 45 days from the date of opening of Financial bid. The competent authority on behalf of the President of India does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all of the tenders received without the assignment of any reason. All tenders, in which any of the prescribed Conditions is not fulfilled or puts any condition including that of conditional rebate is put forth, by the tenderer shall be summarily rejected.
- 7 In case any discrepancy is noticed in the documents, as uploaded at the time of submission of the bid online, then the bid submitted shall become invalid and the Government shall without prejudice to any other right or remedy, be liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the re-tendering process of the work.
- 8 Online bid documents submitted by intending bidders shall be opened only of those bidders, whose EMD deposited with any division office of PWD/CPWD, Delhi and other documents scanned and uploaded are found in order.
9. Agreement shall be drawn with the successful tenderer on prescribed Form No. CPWD 7, which is available as a Govt. of India Publication. Tenderer shall quote his rates as per various terms and Conditions of the said form, which will form part of the agreement.
10. The time allowed for carrying out the work will be 09 Months from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
11. Tender forms can be downloaded from the website <https://govtprocurement.delhi.gov.in> upto 21.02.2019, 15:00 hours.

Tender documents consisting of plans, specifications, the schedule of quantities of the various item of work to be done and the set of terms & Conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen in the office of in the office of The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002 between hours of 11.00 AM & 4.00 PM from 06.02.2019 to 21.02.2019 everyday except on Sundays and Public holidays. Tender documents, excluding standard form, can be downloaded from the website <https://govtprocurement.delhi.gov.in> free of cost and shall be uploaded on website along with the following: -

Earnest money Rs. 48,22,669/- in the form of Treasury Challan or Demand Draft or Pay Order or Banker's Cheque or Deposit at Call receipt or Fixed Deposit Receipt drawn in favour of "The Executive Engineer, The Executive Engineer, M-241, PWD, GNCTD, Delhi" and that can be submitted to and receipt of deposition of earnest money division office of any Executive Engineer of PWD/CPWD, Delhi shall be scanned and upload in the e- tendering website within the period of bid submission. A part of Earnest Money is acceptable in the form of Bank Guarantee also in such case, 50% of the Earnest Money or Rs. 20 Lacs, whichever is less will have to be deposited in the shape prescribed above, and balance amount of earnest money can be accepted in the form of Bank Guarantee issued by a scheduled bank which is to be scanned and uploaded by the intending bidders.

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Note: However, certified copy of all the scanned and uploaded documents duly self attested on above shall have to be submitted by the lowest bidder only along with original receipt of deposited EMD uploaded, within a week physically in the office of The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002

12. Tenders will be received through E-tendering only by in the office of The Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-110002

13. The contractor, whose tender is accepted, will be required to furnish Performance Guarantee of 5% (Five percent) of the tendered amount (50% of Performance Guarantee shall be retained as security deposit and will be refunded after overmaintenance period) within the period specified in Schedule 'F'. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at call receipt of any Scheduled Bank/ Banker's Cheque of any Scheduled Bank/ Demand Draft of any Scheduled Bank/Pay order of any Scheduled Bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed

Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said Performance Guarantee within the period as indicated in Schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The Contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/Registration or proof of applying for obtaining labour licenses, Registration with EPFO, ESIC and BOCW Welfare Board and Programme Chart (Time and Progress) within the period specified in Schedule F.

14. The description of the work is as follows: As per Schedule of Quantities attached.

Copies of other drawings and documents pertaining to the works will be open for inspection by the tenderers in the office of the above mentioned officer.

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

The tenderer shall be responsible for arranging and maintaining at his own cost all materials tools & plants; water, electricity, access facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of Conditions and rates at which stores, tools and plant etc. will be issued to him by the Government and local Conditions and other factors having a bearing on the execution of the work.

15. The competent authority on behalf of the President of India does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all of the tenders received without the assignment of any reason. All tenders, in which any of the prescribed Conditions is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer, shall be summarily rejected.

The public enterprises who avails benefits of the purchase preference should be subjected to adequate penalties for cost overruns etc.

16. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

17. The competent authority on behalf of the President of India reserves to himself the right to accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

18. The contractor shall not be permitted to tender for works in the PWD Circle (responsible for award and execution of contracts) in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted officer in the Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

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19. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of two years after his retirement from Govt. Service without previous permission of the Govt. of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Govt. of India as aforesaid before submission of the tender or engagement in the contractor's service.
20. The tender for the work shall remain open for acceptance for a period of Forty Five (45) days from the date of opening of tenders. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier or makes any modifications in the terms and Conditions of the tender which are not acceptable to the department, then the Govt. shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid.
21. The Notice Inviting Tender shall form a part of the contract document. The successful Tenderer / Contractor, on acceptance of his tender by the Accepting Authority, shall within 15 days from the stipulated date of start of the work sign the contract consisting of: -
- a) The Notice Inviting Tender, all the documents including additional Conditions, specifications and drawings, if any, is forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- b) Standard C.P.W.D. Form 7 i.e. General Conditions of Contract for CPWD Works (edition 2014) Corrected/ Modified upto last date of submission of tender.
- c) Integrity pact: The Integrity Agreement shall be integral part of Tender Document.
22. The contractor shall quote his rates keeping in mind the salient highlights, specifications, terms & Conditions, particular specifications and special Conditions etc. and nothing shall be payable extra whatsoever unless otherwise specified.
23. The contractors shall get themselves registered with works contract cell of GST/Sales Tax Department and furnish a copy of valid registration. The contractor shall obtain a tax clearance certificate in form XI from above Cell and submit to the department within 15 days of award of work.
24. In case of any difference/ ambiguity/ between Hindi & English version, the English version shall prevail.
25. The contractor shall provide temporary structure to accommodate labourers/ workers, cement go down, laboratory, site office with attached toilet (comprising minimum floor area 20sqm in total), Chowkidar hut in consultation with Engineer-in-Charge.
- All these accommodations shall be removed latest by the completion date to be recorded by the department.
26. In the tender document, the word "CPWD" shall include "PWD (GNCTD)" wherever exists.
27. The site for work shall be made available in parts.

**Executive Engineer  
SRD Division-I, PWD**

\*\* To be filled by Executive Engineer

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## CONDITION FOR SECURITY DEPOSIT & PERFORMANCE GUARANTEE

1. The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent of the tendered amount) in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (notwithstanding and /or without prejudice to any other provisions in the contract) within 7 days of issue of letter of acceptance. This period can be further extended by the Engineer-in-charge upto a maximum period of 3 days with late fee @ 0.1% per day of performance guarantee amount.  
This guarantee shall be in the form of Govt. securities or fixed deposit receipts or guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any scheduled Bank is furnished by the contractor to the Govt. as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipts, the loss caused thereby shall fall on the contractor and the contractor shall forth with on demand furnish additional security to the Govt. to make good the deficit.
2. A letter of acceptance shall be issued informing the successful tenderer of the decision of the competent authority to accept his tender and to submit the performance guarantee within 10 days in any of the prescribed form. On receipt of prescribed performance guarantee, necessary letter to commence the work shall be issued and site of work shall be handed over thereafter. In case of failure by the contractor to furnish the performance guarantee within the specified period. Government shall without prejudice to any other right or remedy available in law, be at liability to forfeit the earnest money absolutely.
3. The performance guarantee shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets extended the contractor shall get the validity of performance guarantee extended to cover such extended time for completion of work. After recording of the completion certificate for completion of defect liability period by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. However, in case of contract involving maintenance of building and service/any other works, 2.5% of Performance Guarantee shall be retained as security deposit. The same shall be returned year wise proportionately.
4. The Engineer-in charge shall not make a claim under the performance guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and /or without prejudice to any other provisions in the contract agreement) in the event of:
  - a) Failure by the contractor to extend the validity of the performance guarantee as described herein above, in which event the Engineer -in charge may claim the full amount of the performance guarantee.
  - b) Failure by the contractor to pay President of India any amount due, either as agreed by the contractor or determined under any of the clauses/ conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-charge.In the event of the contract being determined or rescinded under provision of any of the clause/condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the President of India.

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**GOVERNMENT OF DELHI  
PUBLIC WORKS DEPARTMENT**

STATE: DELHI

CIRCLE: Project Circle

BRANCH: E &amp; M/ B &amp; R

DIVISION: SRD Division-I (M-241)  
EMD M-241

ZONE : EAST-MAINT.

SUB-DIV.: I

**Percentage Rate Tender & Contract for Works**

**Tender for the work of: - Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)**

To be uploaded on website by 15.00 hours on **21.02.2019**

(ii) To be opened online in the office of Executive Engineer, SRD Division-I (M-241) PWD (GNCTD), Loknayak Setu, Yamuna Western Bank, New Delhi-02.

(a) Financial Bid at 15:30 on **21.02.2019**.

**TENDER**

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F. specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', Viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule -I of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for by, and in respects of accordance with, such conditions so far as applicable.

We agree to keep the tender open for **Forty Five (45) days** from the due date of opening of financial bid.

A sum of **Rs. 48,22,669/-** is hereby forwarded in receipt treasury challan/deposit at call receipt of scheduled bank/fixed deposit receipt of scheduled bank /demand draft of a scheduled bank / bank guarantee issued by a scheduled bank as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period. I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that the President of India or the successor in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance

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with the provision contain in Clause 12.2, 12.3 of the tender form. Further, I /We agree that in case of forfeiture of earnest money and performance guarantee as aforesaid.

I/We shall be debarred for participation in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in PWD/CPWD, Delhi in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents, drawings and other records connected with the work as secret /confidential documents and shall not communicate information/derived therefrom to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated:- \_\_\_\_\_

Signature of contractor  
Postal Address

Witness:-

Address:-

Occupation:-

\*\* To be filled by Executive Engineer

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लोक नायक सेतू पश्चिमी तट  
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## ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs. Twenty Seven Crore (Rupees 277908065/-).

Seventy Nine Lacs Eight Hundred & Sixty five only  
The letters referred to below shall form part of this contract Agreement:-

a)

b)

c)

For &amp; on behalf of the President of India

Signature \_\_\_\_\_

Designation \_\_\_\_\_

Dated 1/3/2019

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*Accepted*  
*(M) JS*

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# CENTRAL PUBLIC WORKS DEPARTMENT

## OFFICE MEMORANDUM

No. DG/MAN/347

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAVAN, NEW DELHI

DATED: 13.04.2017

Sub:- Modification in CPWD Works Manual 2014 – Various changes as per Technical committee recommendation.

Modification in CPWD Works Manual is hereby made as per following :-

Sl. No.	Existing Provision	Modified Provision															
1.	<p><b>13.2.2 CPWD Form 7 - Percentage rate tender</b></p> <p>(1) This form should be used in tenders for a work where the items of work constituting a major part of the estimated cost put to tender are based on the Department's Schedule of Rates, irrespective of the value of the work.</p> <p>(2) In other works, where the bulk of the items are not based on the Department's Schedule of Rates, this form should be restricted to works whose value does not exceed Rs.10 lakhs.</p> <p>However, the NIT approving authority may decide to go in for this form even for higher values of work for valid reasons.</p>	<p><b>13.2.2 CPWD Form 7 – Item rate tender</b></p> <p>(1) deleted</p> <p>(2) Only Percentage Rate tender shall be called on CPWD Form 7 for all works in CPWD. CE shall be competent, wherever necessary to modify DSR Rates for their zones. In case where there is more than one zone at a station, SDG may nominate one of the CEs at that station for such modification of schedule of rate and their compilation.</p>															
2.	<p><b>15.7 Tenders with two/three envelope system</b></p> <p>(3) The definition of similar work is to be spell out clearly in the NIT by NIT approving authority and shall got be approved from the ADG.</p>	<p><b>15.7 Tenders with two/three envelope system</b></p> <p>(3) The definition of similar work is to be spell out clearly in the NIT by NIT approving authority and shall got be approved from the Chief Engineer.</p>															
3.	<p><b>16.5 Preparation of NIT (10)</b></p> <p>Definition of Competent Authority at each Stage: (Modified vide OM DG/MAN/310 dt. 02.07.2014)</p> <table border="1"> <thead> <tr> <th>Cost of Work</th><th>Stage</th><th>Competent Authority</th></tr> </thead> <tbody> <tr> <td>(i) Upto 25% of financial powers of EE to accord TS but limited</td><td>I to IV</td><td>Full powers to EE</td></tr> </tbody> </table>	Cost of Work	Stage	Competent Authority	(i) Upto 25% of financial powers of EE to accord TS but limited	I to IV	Full powers to EE	<p><b>16.5 Preparation of NIT (10)</b></p> <p>Definition of Competent Authority at each Stage:</p> <table border="1"> <thead> <tr> <th>Cost of Work</th><th>Stage</th><th>Competent Authority</th></tr> </thead> <tbody> <tr> <td>(i) Upto 25% of financial powers of EE to accord TS but limited to Rs.12.5 lacs</td><td>I to IV</td><td>Full powers to EE</td></tr> <tr> <td>(ii) More than powers of EE as per (i) above but upto 50% of financial powers of</td><td>I to IV</td><td>Full powers to SE/PM</td></tr> </tbody> </table>	Cost of Work	Stage	Competent Authority	(i) Upto 25% of financial powers of EE to accord TS but limited to Rs.12.5 lacs	I to IV	Full powers to EE	(ii) More than powers of EE as per (i) above but upto 50% of financial powers of	I to IV	Full powers to SE/PM
Cost of Work	Stage	Competent Authority															
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(ii) More than powers of EE as per (i) above but upto 50% of financial powers of	I to IV	Full powers to SE/PM															

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*Attested by* *[Signature]* *EE*

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	to Rs.12.5Lacs			SE to accord TS but limited to Rs.125lacs		
	(ii) More than powers of EE as per (i) above but upto 50% of financial powers of SE to accord TS but limited to Rs.125lacs	I to IV	Full powers to SE/PM	(iii) Works costing above Rs.125 lacs	I to IV	Full powers to CE/CPM
	(iii) Works costing above Rs.125 lacs and upto Rs. 700 Lacs	I to IV	Full powers to CE/CPM			
	(iv) Works costing more than Rs. 700 lacs	I,II	ADG-in Charge			
		III&IV	Full powers to CE/ CPM			
4.	<b>Para 7.12 computerized measurement books</b> <b>7.12.1 Application and format of the Computerized M.B.</b> (1) In works of estimated cost put to tender of Rs. 15 lakh and above, approving authority, the conventional Measurement Books shall be replaced by a bound volume of computerized Measurements to be furnished by the contractor, duly machine numbered for the pages, and with an MB number given by the Division Office. The pages of these Measurement Books shall be of A-4 size. All these Measurement Books belonging to a Division shall be serially numbered, and a record of these Computerized Measurement Books shall be maintained in a separate Register in Form CPWA 92.			<b>Para 7.12 computerized measurement books</b> <b>7.12.1 Application and format of the Computerized M.B.</b> (1) In works of estimated cost put to tender of Rs. 15 lakh and above and works having Estimated Cost less than Rs. 15 lacs where the contractor exercise the option to adopt CMB, approving authority, the conventional Measurement Books shall be replaced by a bound volume of computerized Measurements to be furnished by the contractor, duly machine numbered for the pages, and with an MB number given by the Division Office. The pages of these Measurement Books shall be of A-4 size. All these Measurement Books belonging to a Division shall be serially numbered, and a record of these Computerized Measurement Books shall be maintained in a separate Register in Form CPWA 92.		
5.	<b>53.20 Outside/Independent Testing Facilities</b> 1. The ADG will approve the private lab on the recommendation of Chief Engineer if no approved lab as above is available within 200 km of the work site. A particular private Lab will be approved for specified tests and work/project. Approving authority will specify the tests while approving the laboratory.			<b>53.20 Outside/Independent Testing Facilities</b> 1. The Superintending Engineer will approve the private lab. irrespective of distance for tests accredited by NABL or any other similarly placed accrediting Government body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025.		
6.	<b>Clause 14 of Form No. 7 &amp; 8:</b>  No provision			<b>Clause 14 of Form No. 7 &amp; 8:</b> 33.11(B) The Engineer-in-Charge shall take prior approval of the NIT approving authority before taking action under clause 14. The powers to accept tenders for such part shall rest with the NIT approving authority upto its delegation of financial powers. Also such part of the work/part incomplete work of any item(s) taken out of the hands of the contractor		

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		under clause 14 and shall be executed through open tender / quotation wherein opportunity shall also be given to the original contractor to participate.
7.	<b>Para 35.1</b> (1)(A)(b) Director (TLCQA)/ Director works  (1)(B)(b) Two Executive Engineers other than EE under whose jurisdiction the work falls	<b>Para 35.1</b> (1)(A)(b) Director (TLCQA)/ Director works who shall be the Member Secretary. (1)(B)(b) Two Executive Engineers other than EE under whose jurisdiction the work falls one of whom shall be Executive Engineer (Planning/HQ) and who shall be the Member Secretary.
8.	<b>Para 35.1</b> (4) Wherever such a Dispute Redress Committee is constituted in a Region, suitable provisions for the same should be made part of NIT that ADG in charge shall be the competent authority to constitute DRC comprising members mentioned above. This shall be incorporated the Schedule of CPWD 7/ 8, and these shall form a part of the contract.  The DRC shall have to give decision on the claims of contractor or department within three months of receipt of reference. If no decision is given by DRC within three months then claimant shall be at liberty to seek appointment of arbitrator. In case, either department or contractor is not satisfied with the decision of DRC, each can seek appointment of arbitrator. The contractor shall only be entitled to invoke the arbitration clause after exhausting the remedy available under the Dispute Redressal Committee.	<b>Para 35.1</b> (4) Wherever such a Dispute Redress Committee is constituted in a Region, suitable provisions for the same should be made part of NIT that ADG in charge shall be the competent authority to constitute DRC comprising members mentioned above. This shall be incorporated the Schedule of CPWD 7/ 8, and these shall form a part of the contract.  The DRC shall have to give decision on the claims of contractor or department within sixty days of receipt of reference. If no decision is given by DRC within this period then claimant shall be at liberty to seek appointment of arbitrator. In case, either department or contractor is not satisfied with the decision of DRC, each can seek appointment of arbitrator. The contractor shall only be entitled to invoke the arbitration clause after exhausting the remedy available under the Dispute Redressal Committee.
9.	<b>Para 24.2.3 Prior sanction of competent authority necessary</b> (1) No extra/substituted item should be executed or approved without the prior concurrence of its necessity by the authority who accorded the technical sanction. But for projects/original works, no approval in principle of TS authority is required for EI/SI item. There is no change in existing delegation of powers to various officers for such works. (Modified vide OM No. DG/MAN/259 dt. 28.12.2012) (2) The powers for sanctioning the substituted/extra items are given in Appendix - I. (3) Assistant Engineer/ Executive Engineer should anticipate any extra/ substituted item that may be	<b>Para 24.2.3 Prior sanction of competent authority necessary</b> (1) Normally no extra/substituted item should be executed or approved without the prior concurrence of its necessity by the authority who accorded the technical sanction. But for projects/original works, prior approval in principle of authority competent to sanction the proposed EI/SI/Deviations item, shall be required. There is no change in existing delegation of powers to various officers for such works. (2) The powers for sanctioning the substituted/extra items are given in Appendix - I. (3) Assistant Engineer/ Executive Engineer should anticipate any extra/ substituted item that may be necessary for the execution of the work, and

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	necessary for the execution of the work, and they shall initiate the case after obtaining prior concurrence as per sub-para (1) above for its approval from the competent authority. Such cases shall be expeditiously processed at all levels to minimise delay in the execution of the work. But for projects/original works, no approval in principle of TS authority is required for EI/SI item. (Modified vide OM No. DG/MAN/259 dt. 28.12.2012)	they shall initiate the case after obtaining prior concurrence as per sub-para (1) above for its approval from the competent authority. Such cases shall be expeditiously processed at all levels to minimize delay in the execution of the work. But for projects/original works, prior approval in principle of authority competent to sanction for the proposed EI/SI/Deviations item shall be required.
10.	Section 24 Para 24.2.5  No Provision	Section 24 Para 24.2.5 From date of submission of proposal by the contractor with full supporting documents to Engineer in Charge, only one comprehensive observation shall be made if necessary. Engineer in Charge shall submit EI/SI/DI directly to competent authority within 2 weeks from the date of receipt of proposal. Competent authority shall sanction EI/SI/DI within 2 weeks, failing which it will be deemed to have been approved.
11.	Section 29 Para 29.13 (2) After submission of application for rescheduling of milestones by the contractor, the rescheduling shall be done by the competent authority i.e. Superintending Engineer as described in the schedule F of GCC in the following time period: (i) Sub division Office - 5 days (ii) Division Office - 5 days (iii) Circle Office - 5 days	Section 29 Para 29.13 (2) After submission of application for rescheduling of milestones by the contractor in prescribed proforma with supporting documents, only one comprehensive observation shall be made if necessary. Engineer in Charge to submit the rescheduling proposal within 2 weeks from the date of receipt of proposal. Sanctioning authority shall decide the rescheduling proposal in 2 weeks of receipt of proposal, failing which it will be deemed that Rescheduling of milestones have been approved.
12.	Section 19.4 (5) The Bank Guarantee submitted as a part of Earnest Money shall be valid for a period of six months or more from the date of submission of the tender. (Added as per OM/MAN/169)	Section 19.4 (5) The Bank Guarantee submitted as a part of Earnest Money shall be valid for a period of 90 days for single bid works and 120 days for two bid system or more from the date of submission of the tender.
13.	32.5 Grant of mobilization advance to the contractors for executing capital intensive works (ii) The mobilization advance shall be released only after obtaining a bank Guarantee bond from a schedule bank for the amount of advance to be released and valid for the contract period. This shall be kept renewed time to time to cover the balance amount and likely period to complete recovery together with interest. (Modified as per OM/MAN/160). The	32.5 Grant of mobilization advance to the contractors for executing capital intensive works (ii) The mobilization advance shall be released only after obtaining a bank Guarantee bonds (not more than 6 in number) from a schedule bank for the amount of advance to be released and valid for various periods required so as to cover the period till recovery of the advance. These shall be kept renewed from time to time to cover the balance amount and likely period to complete recovery together with interest. The advance should be

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	advance should be released in not less than two installments. The interest on the advance shall be calculated from the date of payment to the date of recovery, both days inclusive.	released in not less than two installments. The interest on the advance shall be calculated from the date of payment to the date of recovery, both days inclusive.
14.	<b>ANNEXURE-I OF APPENDIX - 20</b> <b>CRITERIA FOR EVALUATION OF THE PERFORMANCE OF CONTRACTORS FOR PRE-ELIGIBILITY</b> (c) Performance on works (time over run) (20 marks) TOR = AT/ST, where AT=Actual Time; ST=Stipulated Time. Note: Marks for value in between the stages indicated above is to be determined by straight line variation basis.	<b>ANNEXURE-I OF APPENDIX - 20</b> <b>CRITERIA FOR EVALUATION OF THE PERFORMANCE OF CONTRACTORS FOR PRE-ELIGIBILITY</b> (c) Performance on works (time over run) (20 marks) TOR = AT/ST, where AT=Actual Time; ST=Stipulated Time in the AGREEMENT plus (+) Justified Period of Extension of Time. Note: Marks for value in between the stages indicated above is to be determined by straight line variation basis.

*[Signature]*  
13/4/17  
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/16(1)/2017

1. All Spl. DGs, ADGs, CPWD, E-in-C, PWD, Delhi Govt. They are requested to endorse a copy of this O. M. to all CEs, SEs & EEs.

*[Signature]*  
Executive Engineer (M)

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# CENTRAL PUBLIC WORKS DEPARTMENT

## OFFICE MEMORANDUM

NO. DG/MAN/ 353

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAVAN, NEW DELHI

DATED: 14.08.2017

**Sub:- Modification in CPWD Works Manual 2014 – Section 20A.13(12), 20A.12(10)-(iii), Annexure 20A.13.1. (vi),(vii) and 20A.13.2. (vii), (viii) Regarding:-**

The above sections/provisions of CPWD Work Manual 2014 which were modified vide DG/MAN/328 dated 04.01.2016 and 341 dated 05.10.2016 are further modified as under with immediate effect.

Sl. No.	Section No.	Existing Provision	Modified Provision
1	20A.13(12)	It Is mandatory to upload scanned copies of all the documents including service tax registration /VAT registration / Sales Tax registration if stipulated in the bid document. If such document is not uploaded his bid will become invalid and processing fee shall not be refunded.	It is mandatory to upload scanned copies of all the documents including <b>GST</b> registration If these documents are not uploaded, then bid will become invalid and shall summarily be rejected.
2	20A.12(10)  20A.12(10) (iii)	<b>The bid submitted shall become invalid if:</b>  The bidder does not upload all documents (including service tax registration /VAT registration / Sales Tax registration) as stipulated in the bid document including the copy of receipt for deposition of original EMD.	<b>The bid submitted shall become invalid if:</b>  The bidder does not upload all documents (including <b>GST</b> registration) as stipulated in the bid document including the copy of receipt for deposition of original EMD instrument.
3	20A.13.1. (vi)	Certificate of Registration for Sales Tax/VAT and Acknowledgement of up to date filed return if required.	(vi) Certificate of Registration for <b>GST</b> and <b>acknowledgement of upto date</b> filed return as per NIT Stipulation.

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	(vii)	Certificate of Registration for service tax and acknowledgement of up to date filed return, if required as per Notification No. 06/2015 – Service Tax dt. 01.03.2015 of Department of Revenue M/o Finance (to be decided by the NIT approving authority).	Deleted
4	20A.13.2. (vii)	Certificate of Registration for Sales Tax/VAT and Acknowledgement of up to date filed return if required.	(vii) Certificate of Registration for GST and Acknowledgement of up to date filed return as per NIT Stipulation.
	(viii)	Certificate of Registration for Sales Tax/VAT and Acknowledgement of up to date filed return, if required as per Notification No. 06/2015 – Service Tax dt. 01.03.2015 of Department of Revenue M/o Finance (to be decided by the NIT approving authority).	Deleted

14.8.17  
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/16(1)/2017

1. All Spl. DGs, ADGs, CPWD, E-in-C, PWD, Delhi Govt. They are requested to endorse a copy of this O. M. to all CEs, SEs & EEs.
2. DDG(e-governance). It is requested to arrange necessary modification in e-tendering system through M/s ITI Limited.

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# CENTRAL PUBLIC WORKS DEPARTMENT

## OFFICE MEMORANDUM

NO. DG/MAN/ 354

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAVAN, NEW DELHI

DATED: 14.08.2017

Sub:- Modification of Para 16.1 regarding specialized work i.e. guidelines and steps for field officers to be taken while finalizing/ according technical sanction for unconventional and complicated specialized works and new items/ products.

The following provision of CPWD Works Manual 2014 is modified as under as suggested by CVO, CPWD vide their Systematic Improvement Recommendation No.12/2017:-

Para No.	Existing Provision	Modified provision
16.1	Specialized works are those works for which there are specialized agencies available in the market should be got executed through such agencies only to ensure a proper quality of work	Specialized works are those works for which there are specialized agencies available in the market should be got executed through such agencies only to ensure a proper quality of work. However for specialized work of unconventional nature, Technical Sanctioning Authority, and the concerned officers related with the work should examine the site and technical detail thoroughly and whenever required take assistance from expert consultants or expert technical institutions having expertise in such type of unconventional works and only then should finalize the technical specifications for such work and accord technical sanction accordingly.

20/14/8/10  
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/16(1)/2017

1. All Spl. DGs, ADGs, CPWD, E-in-C, PWD, Delhi Govt. They are requested to endorse a copy of this O. M. to all CEs, SEs & EEs.

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## CLAUSES OF CONTRACT

Performance  
Guarantee

## CLAUSE 1

- (i) The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in schedule 'F' on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of Cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay Order of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.
- (ii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. However, in case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then 50% of Performance Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.
- (iii) The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
- (a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
  - (b) Failure by the contractor to pay President of India any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
- (iv) In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the President of India.
- (v) On substantial Completion of any work which has been completed to such an extent that the intended purpose of the work is met and ready to use, then a provisional Completion certificate shall be recorded by the Engineer-in-Charge. The provisional certificate shall have appended with a list of outstanding balance item of work that need to be completed in accordance with the provisions of the contract.

This provisional completion certificate shall be recorded by the concerned Engineer-in-charge with the approval of Project Manager / Chief Project Manager / Superintending

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# CLAUSES OF CONTRACT



Engineer. After recording of the provisional Completion Certificate for the work by the competent authority, the 80 % of performance guarantee shall be returned to the contractor, without any interest.

However in case of contracts involving Maintenance of building and services / any other work after construction of same building and services/ other work, then 40% of performance guarantee shall be returned to the contractor, without any interest after recording the provisional Completion certificate.

## CLAUSE 1 A

### Recovery of Security Deposit

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Government at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 2.5% of the gross amount of each running and final bill till the sum deducted will amount to security deposit of 2.5% of the tendered value of the work. Such deductions will be made and held by Government by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities or fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by Government on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks or Government Securities (if deposited for more than 12 months) endorsed in favour of the Engineer-in-Charge, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills and the final bill of the contractor at the rates mentioned above.

The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs. 5 lac subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lac. Provided further that the validity of bank guarantee including the one given against the earnest money shall be in conformity with provisions contained in clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of clause 2 and clause 5.

In case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then 50% of Performance Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.

Note-1: Government papers tendered as security will be taken at 5% (five per cent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Divisional Officer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld if necessary.

Note-2: Government Securities will include all forms of Securities mentioned in Rule No. 274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

Note-3: Note 1 & 2 above shall be applicable for both clause 1 and 1A

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### Compensation for Delay

#### CLAUSE 2

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or justified extended date of completion, as per clause 5 (excluding any extension under Clause 5.5) as well as any extension granted under clauses 12 and 15, he shall, without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' may decide on the amount of Tendered Value of the work for every completed day/month (as determined) that the progress remains below that specified in Clause 5 or that the work remains incomplete.

This will also apply to items or group of items for which a separate period of completion has been specified.

- (i) Compensation for delay of work @ 1 % per month of delay to be computed on per day basis

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10 % of the Tendered Value of work or of the Tendered Value of the Sectional part of work as mentioned in Schedule 'F' for which a separate period of completion is originally given.

In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no waiver of right to levy compensation by the said authority if the work remains incomplete on final justified extended date of completion. If the Engineer in Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period. If any variation in amount of contract takes place during such extended period beyond justified extended date and the contractor becomes entitled to additional time under clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period beyond the justified extended period, if any delay occurs by events under sub clause 5.2, the contractor shall be liable to pay compensation for such delay.

Provided that compensation during the progress of work before the justified extended date of completion for delay under this clause shall be for non-achievement of sectional completion or part handing over of work on stipulated/justified extended date for such part work or if delay affects any other works/services. This is without prejudice to right of action by the Engineer in Charge under clause 3 for delay in performance and claim of compensation under that clause.

In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in Schedule F, after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above. With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

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### Incentive for early completion **CLAUSE 2A**

In case, the contractor completes the work ahead of stipulated date of completion or justified extended date of completion as determined under clauses 5.3, 12 & 15, a bonus @ 1% (one per cent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5% (five per cent) of the tendered value. Provided that justified time for extra work shall be calculated on pro-rata basis as cost of extra work X stipulated period / tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the Clause 2A shall be applicable only when so provided in 'Schedule F'.

### When Contract can be Determined

#### **CLAUSE 3**

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- (i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- (ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- (iii) If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the contractor will be unable to complete the same or does not complete the same within the period specified.
- (iv) If the contractor persistently neglects to carry out his obligations under the contract and/or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- (v) If the contractor shall offer or give or agree to give to any person in Government service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for Government.
- (vi) If the contractor shall enter into a contract with Government in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- (vii) If the contractor had secured the contract with Government as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.
- (viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under

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any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

- (ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- (x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- (xi) If the contractor assigns, (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the President of India shall have powers:

- (a) To determine the contract as aforesaid so far as performance of work by the Contractor is concerned (of which determination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.
- (b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

## CLAUSE 3A

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is more, either party may close the contract by giving notice to the other party stating reasons. In such eventuality, the Performance Guarantee of the contractor shall be refunded within following time limits :

- (i) If the Tendered value of work is up to Rs. 45 lac : 15 days.
- (ii) If the Tendered value of work is more than Rs. 45 lac and up to Rs. 2.5 Crore : 21 days.
- (iii) If the Tendered value of work exceeds Rs. 2.5 Crore : 30 days.

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Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party.

Contractor liable to pay Compensation even if action not taken under Clause 3

### CLAUSE 4

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable; at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) and in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

### CLAUSE 5

Time and Extension for Delay

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site notified by the Engineer-in-Charge, whichever is later. However, the handing over of site by the Engineer in Charge, in full or in part (if so provided in contract), shall be completed within two months from issue of acceptance letter. If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited by the Engineer in Charge and shall be absolutely at the disposal of the Government without prejudice to any other right or remedy available in law.

5.1 As soon as possible but within twenty one days of award of work and in consideration of

- Schedule of handing over of site as specified in the Schedule 'F'
- Schedule of issue of designs as specified in the Schedule 'F'
- The Contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 30 days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in-Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special

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jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'.

- (ii) In case of non submission of construction programme by the contractor the program approved by the Engineer-in-Charge shall be deemed to be final.
- (iii) The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.
- (iv) The contractor shall submit the Time and Progress Chart and progress report using the mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery Rs. 2500/- (for works costing upto Rs. 20 Crores) / Rs. 5000/- (for works costing more than Rs. 20 Crores) shall be made on per week or part basis in case of delay in submission of the monthly progress report.

5.2 If the work(s) be delayed by:-

- (i) force majeure, or
- (ii) abnormally bad weather, or
- (iii) serious loss or damage by fire, or
- (iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- (v) delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- (vi) non-availability of stores, which are the responsibility of Government to supply or
- (vii) non-availability or break down of tools and Plant to be supplied or supplied by Government or
- (viii) any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge for entry in the hindrance register (physical or web-based as prescribed in Schedule 'F' but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause 5.2.

- 5.3 In case the work is hindered by any reasons, in the opinion of the contractor, by the Department or for someone for whose action the Department is responsible, the contractor may immediately give notice thereof in writing to the Engineer-in-Charge in the same manner as prescribed under sub Clause 5.2 seeking extension of time or rescheduling of milestone/s. The authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work after due consideration of the same within 30 days of receipt of such request. In event of non application by the contractor for extension of time E-in-C after affording opportunity to the contractor may give, supported with a programme, a fair and reasonable extension within a reasonable period of occurrence of the event.

Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub clause and sub clause 5.2 to the extent the delay is covered under sub clause 5.2 the contractor shall be entitled to only extension of time and no damages.

- 5.4 Request for rescheduling of Mile stones or extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed forms i.e. Form of application by the contractor for seeking

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rescheduling of milestones (Appendix-XVI) or Form of application by the contractor for seeking extension of time (Appendix-XVII) respectively to the authority as indicated in Schedule 'F'. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired.

With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised programme which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which these details should be available without causing any delay in execution of the work. A recovery as specified in Schedule 'F' shall be made on per day basis in case of delay in submission of the revised programme.

5.4.1 In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time for completion of work or reschedule the milestones. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 30 days of the date of receipt of such request from the Contractor in prescribed form. In event of non application by the contractor for extension of time E-in-C after affording opportunity to the contractor, may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.

5.5 In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the contractor for reasons beyond the events mentioned in clause 5.2 or clause 5.3 or clause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.

### CLAUSE 6

#### Measurements of Work Done

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the work expressly shows to the contrary,

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measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed.

The contractor shall give, not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

Computerized  
Measurement  
Book

#### CLAUSE 6A

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

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The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerised MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department.

The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the "bill". Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

Payment on  
Intermediate  
Certificate to be  
Regarded as  
Advances

## CLAUSE 7

No payment No payment shall be made for work, estimated to cost Rs. One lac or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. One lac, the interim or running account bills shall be

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submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 10th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Asstt. Engineer together with the account of the material issued by the department, or dismantled materials, if any. In the case of works outside the headquarters of the Engineer-in-Charge, the period of ten working days will be extended to fifteen working days. In case of delay in payment of intermediate bills after 45 days of submission of bill by the contractor provided the bill submitted by the contractor found to be in order, a simple interest @ 10% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt. Engineer to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill to be submitted by the contractor within 10 days of the interim payment. In case of delay in submission of bill by the contractor a simple interest @ 10% per annum shall be paid to the Government from the date of expiry of prescribed time limit which will be compounded on yearly basis.

Payments in  
composite  
Contracts

In case of composite tenders, running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor component shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.

In case main contractor fails to make the payment to the contractor associated by him within 15 days of receipt of each running account payment, then on the written complaint of contractor associated for such minor component, Engineer-in-Charge of minor component shall serve the show cause to the main contractor and if reply of main contractor either not received or

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found unsatisfactory, he may make the payment directly to the contractor associated for minor component, as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment made to the associate contractor shall be recovered by Engineer-in-Charge of major or minor component from the next R/A/ final bill due to main contractor as the case may be.

**CLAUSE 7A**

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge.

Completion  
Certificate and  
Completion Plans

**CLAUSE 8**

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose off the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Contractor to Keep  
Site Clean

**CLAUSE 8A**

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows, etc shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done: without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. Before taking such action, the Engineer-in-Charge shall give ten days notice in writing to the contractor.

Completion Plans to  
be Submitted by the  
Contractor

**CLAUSE 8B**

The contractor shall submit completion plan as required vide General Specifications for Electrical works (Part-I Internal) 2005 and (Part-II External) 1994 as applicable within thirty days of the completion of the work.

In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum of 0.1 % of Tendered Value or limit prescribed in Schedule F whichever is more as may be fixed by the Superintending Engineer concerned and in this respect the decision of the Superintending Engineer shall be final and binding on the contractor.

The contractor shall submit completion plan for Internal and External Civil, Electrical and

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Mechanical Services within thirty days of the completion of the work, provided that the Service plans having been issued for execution by the Engineer-in-Charge, unless the contractor, by virtue of any other provision in the contract, is required to prepare such plans.

## CLAUSE 9

Payment of Final Bill

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified hereunder, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Asstt. Engineer, complete with account of materials issued by the Department and dismantled materials.

- (i) If the Tendered value of work is up to Rs. 45 lac : 2 months
- (ii) If the Tendered value of work is more than Rs.45 lac and up to Rs. 2.5 Crore : 3 months
- (iii) If the Tendered value of work exceeds Rs. 2.5 Crore : 6 months

In case of delay in payment of final bills after prescribed time limit, a simple interest @ 10% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis, provided the final bill submitted by the contractor found to be in order.

## CLAUSE 9A

Payment of Contractor's Bills to Banks

Payments due to the contractor may, if so desired by him, be made to his bank, registered financial, co-operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge (1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank; registered financial, co-operative or thrift societies or recognized financial institutions to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by Government or his signature on the bill or other claim preferred against Government before settlement by the Engineer-in-Charge of the account or claim by payment to the bank, registered financial, co-operative or thrift societies or recognized financial institutions. While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank, registered financial, co-operative or thrift societies or recognized financial institutions.

Nothing herein contained shall operate to create in favour of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities vis-a-vis the President of India.

## CLAUSE 10

Materials supplied by Government

Materials which Government will supply are shown in Schedule 'B' which also stipulates quantum, place of issue and rate(s) to be charged in respect thereof. The contractor shall be bound to procure them from the Engineer-in-Charge.

As soon as the work is awarded, the contractor shall finalise the programme for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/or schedule of quantities of the work. The Contractor shall give in writing his requirement to the Engineer-in-Charge which shall be issued to him keeping in view the progress of work as assessed by the Engineer-in-Charge, in accordance with the agreed phased programme of work indicating monthly requirements of various materials. The

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contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirement.

Such materials shall be supplied for the purpose of the contract only and the value of the materials so supplied at the rates specified in the aforesaid schedule shall be set off or deducted, as and when materials are consumed in items of work (including normal wastage) for which payment is being made to the contractor, from any sum then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that balance of materials supplied is available at site in original good condition.

The contractor shall submit along with every running bill (on account or interim bill) materialwise reconciliation statements supported by complete calculations reconciling total issue, total consumption and certified balance (diameter/section-wise in the case of steel) and resulting variations and reasons therefore. Engineer-in-Charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery in clause 42 at any stage of the work if reconciliation is not found to be satisfactory.

The contractor shall bear the cost of getting the material issued, loading, transporting to site, unloading, storing under cover as required, cutting assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the contract and (or the CPWA Code) all stores/materials so supplied to the contractor or procured with the assistance of the Government shall remain the absolute property of Government and the contractor shall be the trustee of the stores/materials, and the said stores/materials shall not be removed/disposed off from the site of the work on any account and shall be at all times open to inspection by the Engineer-in-Charge or his authorized agent. Any such stores/materials remaining unused shall be returned to the Engineer-in-Charge in as good a condition in which they were originally supplied at a place directed by him, at a place of issue or any other place specified by him as he shall require, but in case it is decided not to take back the stores/materials the contractor shall have no claim for compensation on any account of such stores/materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/materials.

On being required to return the stores/materials, the contractor shall hand over the stores/materials on being paid or credited such price as the Engineer-in-Charge shall determine, having due regard to the condition of the stores/materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charges, if any. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to account for contravention of the terms of the licences or permit and/or for criminal breach of trust, be liable to Government for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on account of any delay in supply or non-supply thereof all or any such materials and stores provided further that the contractor shall be bound to execute the entire work if the materials are supplied by the Government within the original scheduled time for completion of the work plus 50% thereof or schedule time plus 6 months whichever is more if the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, then the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-Charge whose decision in this regard shall be final and binding on the contractor.

The contractor shall see that only the required quantities of materials are got issued. Any

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such material remaining unused and in perfectly good/original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-Charge at the stores from which it was issued or at a place directed by him by a notice in writing. The contractor shall not be entitled for loading, transporting, unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue.

Materials to be  
provided by the  
Contractor

#### CLAUSE 10A

The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the Government.

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.

The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in schedule F.

Secured Advance  
on Non-perishable  
Materials

#### CLAUSE 10B

- (i) The contractor, on signing an indenture in the form in Annexure XVIII by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to

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75% of the assessed value of any materials which are in the opinion of the Engineer-in-Charge non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

**Mobilisation  
Advance**

- (ii) Mobilization advance not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work. Such advance shall be in two or more installments to be determined by the Engineer-in-Charge at his sole discretion. The first installment of such advance shall be released by the Engineer-in-Charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent installments shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier installment to the entire satisfaction of the Engineer-in-Charge.

Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bonds not more than 6 in number from Scheduled Bank for the amount equal to 110% of the amount of advance and valid for the period till recovery of advance. This (Bank Guarantee from Scheduled Bank for the amount equal to 110% of the balance amount of advance) shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.

Provided always that provision of Clause 10 B (ii) shall be applicable only when so provided in 'Schedule F'.

**Plant Machinery &  
Shuttering Material  
Advance**

- (iii) An advance for plant, machinery & shuttering material required for the work and brought to site by the Contractor may be given if requested by the contractor in writing within one month of bringing such plant and machinery to site. Such advance shall be given on such plant and machinery which in the opinion of the Engineer-in-Charge will add to the expeditious execution of work and improve the quality of work. The amount of advance shall be restricted to 5% percent of the tender value. In the case of new plant and equipment to be purchased for the work, the advance shall be restricted to 90% of the price of such new plant and equipment paid by the contractor for which the contractor shall produce evidence satisfactory to the Engineer-in-Charge. In the case of second hand and used plants and equipment, the amount of such advance shall be limited to 50% of the depreciated value of plant and equipment as may be decided by the Engineer-in-Charge. The contractor shall, if so required by the Engineer-in-Charge, submit the statement of value of such old plant and equipment duly approved by a Registered Valuer recognized by the Central Board of Direct Taxes under the Income Tax Act, 1961. No such advance shall be paid on any plant and equipment of perishable nature and on any plant and equipment of a value less than Rs. 50,000/- Seventy five per cent of such amount of advance shall be paid after the plant & equipment is brought to site and balance twenty five percent on successfully commissioning the same.

Leasing of equipment shall be considered at par with purchase of equipment and shall be covered by tripartite agreement with the following:

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1. Leasing company which gives certificate of agreeing to lease equipment to the contractor.
2. Engineer in Charge, and
3. The contractor.

This advance shall further be subject to the condition that such plant and equipment (a) are considered by the Engineer-in-Charge to be necessary for the works; (b) and are in working order and are maintained in working order; (c) hypothecated to the Government as specified by the Engineer-in-Charge before the payment of advance is released. The contractor shall not be permitted to remove from the site such hypothecated plant and equipment without the prior written permission of the Engineer-in-Charge. The contractor shall be responsible for maintaining such plant and equipment in good working order during the entire period of hypothecation failing which such advance shall be entirely recovered in lump sum. For this purpose, steel scaffolding and form work shall be treated as plant and equipment.

The contractor shall insure the Plant and Machinery for which mobilization advance is sought and given, for a sum sufficient to provide for their replacement at site. Any amounts not recovered from the insurer will be borne by the contractor.

Interest &  
Recovery

- (iv) The mobilization advance and plant and machinery advance in (ii) & (iii) above bear simple interest at the rate of 10 per cent per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractors bills commencing after first ten per cent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty per cent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.
- (v) If the circumstances are considered reasonable by the Engineer-in-Charge, the period mentioned in (ii) and (iii) for request by the contractor in writing for grant of mobilization advance and plant and equipment advance may be extended in the discretion of the Engineer-in-Charge.

## CLAUSE 10C

Payment on  
Account of Increase  
in Prices/Wages  
due to Statutory  
Order(s)

If after submission of the tender, if the price of any material incorporated in the work (excluding the material covered under clause 10 CA and not been a material supply for a Engineer-in-Charge's store in accordance with clause 10 therefore) and/or wages of labour increases as a direct result of the coming into force of any fresh law or statutory rule or order (but not due to any variation of rate in GST applicable on such material(s) being considered under this clause) beyond the prices/wages prevailing at the time of the last stipulated date of receipt of tenders including extensions, if any, for the work during contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, then the amount of the contract shall accordingly be varied.

If after submission of the tender, the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and/or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rules or order (but not due to any changes of rate in sales tax/VAT, Central/State Excise/Custom Duty), Government shall in respect of materials incorporated in the works (excluding the materials covered under

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Clause 10CA and not being material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 hereof) and/or labour engaged on the execution of the work after the date of coming into force of such law statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the materials and/or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of materials and/or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2.

Engineer-in-Charge shall call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages.

The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/or wages of labour, give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply.

For this purpose, the labour component of 85% of the value of the work executed during period under consideration shall not exceed the percentage as specified in Schedule F, of the value of work done during that period and the increase/decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled mazdoor, fixed under any law, statutory rule or order. The cost of work for which escalation is applicable (W) is same as cost of work done worked out as indicated in sub-para (ii) of clause 10 CC except the amount of full assessed value of secured Advance.

## CLAUSE 10 CA

Payment due to  
variation in prices  
of materials after  
receipt of tender

If after submission of the tender, the price of materials specified in Schedule F increases/decreases beyond the base price(s) as indicated in Schedule F for the work, then the amount of the contract shall accordingly be varied and provided further that any such variations shall be effected for stipulated period of Contract including the justified period extended under the provisions of Clause 5 of the Contract without any action under Clause 2.

However for work done/during the justified period extended as above, it will be limited to indices prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost).

The increase/decrease in prices of cement, steel reinforcement, structural steel and POL shall be determined by the Price indices issued by the Director General, CPWD. For other items provided in the Schedule 'F', this shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor to Government of India, Ministry of Commerce and Industry. Base price for cement, steel reinforcement, structural steel and POL shall be as issued under the authority of Director General CPWD applicable for Delhi including Noida, Gurgaon, Faridabad & Ghaziabad and for other places as issued under the authority of Zonal Chief Engineer, CPWD and base price of other materials issued by concerned Zonal Chief Engineer and as indicated in Schedule 'F'. In case, price index of a particular material is not issued by Ministry of Commerce and Industry, then the price index of nearest similar material as indicated in Schedule 'F' shall be followed.

The amount of the contract shall accordingly be varied for all such materials and will be worked out as per the formula given below for individual material:-

Adjustment for component of individual material

$$V = P \times Q \times \frac{CI - CI_0}{CI_0}$$

where,

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लो.नि.वि. (दि.स.) रा.अनु.मं. एम-241  
लोक नायक सेतू पश्चिमी तट  
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V = Variation in material cost i.e. increase or decrease in the amount of rupees to be paid or recovered.

P = Base Price of material as issued under authority of DG, CPWD or concerned Zonal Chief Engineer and as indicated in Schedule "F".

For Projects and Original Works

Q = Quantity of material brought at site for bonafide use in the works since previous bill excluding any such quantity consumed in the deviated quantity of items beyond deviation limit and extra /substituted item, paid/to be paid at rates derived on the basis of market rate under clause 12.2.

For Maintenance Works

Q = Quantity of material brought at site for bonafide use in the works since previous bill including any such quantity consumed in the deviated quantity of items beyond deviation limit paid at agreement rate and extra /substituted item being scheduled items, but excluding non schedule extra /substituted item paid/to be paid at market rate under clause 12.2.

CI = Price index for cement, steel reinforcement bars structural steel and POL as issued by the DG, CPWD and corresponding to the time of base price of respective material indicated in Schedule 'F'. For other items, if any, provided in Schedule 'F', All India Wholesale Price Index for the material as published by the Economic Advisor to Government of India, Ministry of Industry and Commerce and corresponding to the time of base price of respective material indicated in Schedule 'F'.

CI = Price index for cement, steel reinforcement bars, structural steel and POL as issued under the authority of DG, CPWD for period under consideration. For other items, if any, provided in Schedule 'F', All India Wholesale Price Index for the material for period under consideration as published by Economic Advisor to Government of India, Ministry of Industry and Commerce.

Note: (i) In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, the index prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on prorata basis only as cost of extra work x stipulated period/ tendered cost) shall be considered.

Provided always that provisions of the preceding Clause 10 C shall not be applicable in respect of Materials covered in this Clause.

(ii) If during progress of work or at the time of completion of work, it is noticed that any material brought at site is in excess of requirement, then amount of escalation if paid earlier on such excess quantity of material shall be recovered on the basis of cost indices as applied at the time of payment of escalation or as prevailing at the time of effecting recovery, whichever is higher.

(iii) Cement mentioned wherever in this clause includes Cement component used in RMC brought at site from outside approved RMC plants, if any.

(iv) The date wise record of ready mix concrete shall be kept in a register and the cement consumption for the same shall be calculated accordingly.

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- (v) If built-up steel items are brought at site from workshop, then the variation shall be paid for the structural steel up to the period when the built up item/finished product is brought at site.

Payment due to Increase/Decrease in Prices/Wages (excluding materials covered under clause 10 CA) after Receipt of Tender for Works

#### CLAUSE 10 CC

If the prices of materials (not being materials supplied or services rendered at fixed prices by the department in accordance with clause 10 & 34 thereof) and/or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2. No such compensation shall be payable for a work for which the stipulated period of completion is equal to or less than the time as specified in Schedule F. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions:-

- (i) The base date for working out such escalation shall be the last stipulated date of receipt of tenders including extension, if any.
- (ii) The cost of work on which escalation will be payable shall be reckoned as below :
  - (a) Gross value of work done up to this quarter : (A)
  - (b) Gross value of work done up to the last quarter : (B)
  - (c) Gross value of work done since previous quarter (A-B) : (C)
  - (d) Full assessed value of Secured Advance (excluding materials Covered under Clause 10 CA) fresh paid in this quarter : (D)
  - (e) Full assessed value of Secured Advance (excluding materials Covered under Clause 10 CA) recovered in this quarter : (E)
  - (f) Full assessed value of Secured Advance for which escalation Payable in this quarter (D-E) : (F)
  - (g) Advance payment made during this quarter : (G)
  - (h) Advance payment recovered during this quarter : (H)
  - (i) Advance payment for which escalation is payable in this Quarter (G-H) : (I)
  - (j) Extra items/deviated quantities of items paid as per Clause 12 Based on prevailing market rates during this quarter : (J)

Then,  $M = C + F + J$   
 $N = 0.85 M$

  - (k) Less cost of material supplied by the department as per Clause 10 and recovered during the quarter : (K)
  - (l) Less cost of services rendered at fixed charges as per Clause 34 and recovered during the quarter : (L)

Cost of work for which escalation is applicable:  
 $W = N - (K + L)$
- (iii) Components for materials (except cement, reinforcement bars, structural steel, POL or other materials covered under clause 10 CA) labour, etc. shall be pre-determined for every work and incorporated in the conditions of contract attached to the tender papers included in Schedule 'F'. The decision of the Engineer-in-Charge in working out such percentage shall be binding on the contractors.
- (iv) The compensation for escalation for other materials (excluding cement, reinforcement bars, structural steel, POL or other materials covered under clause 10 CA) shall be

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worked as per the formula given below:-

Adjustment for civil component (except cement, structural steel, reinforcement bars, POL and other materials covered under clause 10CA) / electrical component of construction 'Materials'

$$Vm = W \times \frac{Xn}{100} \times \frac{MI - MI_0}{MI_0}$$

$Vm$  = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

$W$  = Cost of Work done worked out as indicated in sub-para (ii) of Clause 10CC.

$Xn$  = Component of 'materials' (except cement, structural steel, reinforcement bars POL and other materials covered under clause 10CA) expressed as percent of the total value of work.

$MI$  = All India Wholesale Price Index for civil component/electrical component\* of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/Group Items for the period under consideration as published by Economic Advisor to Govt. of India, Ministry of Industry & Commerce and applying weightages to the Individual Commodities/Group Items. (In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, the index prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on prorata basis only as cost of extra work x stipulated period/ tendered cost, shall be considered.)

$MI_0$  = All India Wholesale Price Index for civil component/electrical component\* of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/Group Items valid on the last stipulated date of receipt of tender including extension, if any, as published by the Economic Advisor to Govt. of India, Ministry of Industry & Commerce and applying weightages to the Individual Commodities/Group Items.

\*Note: relevant component only will be applicable.

(v) The following principles shall be followed while working out the indices mentioned in para (iv) above.

- The compensation for escalation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The dates of preparation of bills as finally entered in the Measurement Book by the Assistant Engineer/ date of submission of bill finally by the contractor to the department in case of computerised measurement books shall be the guiding factor to decide the bills relevant to the quarterly interval. The first such payment shall be made at the end of three months after the month (excluding the month in which tender was accepted) and thereafter at three months' interval. At the time of completion of the work, the last period for payment might become less than 3 months, depending on the actual date of completion.
- The index (MI/FI etc.) relevant to any quarter/period for which such compensation is paid shall be the arithmetical average of the indices relevant to the three calendar months. If the period up to date of completion after the quarter covered by the last such installment of payment, is less than three months, the index MI and FI shall be the average of the indices for the months falling within that period.



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- (vi) The compensation for escalation for labour shall be worked out as per the formula given below:-

$$VL = W \times \frac{Y}{100} \times \frac{LI - LI_0}{LI_0}$$

- VL : Variation in labour cost i.e. amount of increase or decrease in rupees to be paid or recovered.
- W : Value of work done, worked out as indicated in sub-para (ii) above.
- Y : Component of labour expressed as a percentage of the total value of the work.
- LI : Minimum wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration. (In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, the minimum wage prevailing on the last date of quarter previous to the quarter pertaining to updated stipulated date of Completion considering the effect of extra work (extra time to be calculated on prorata basis only as cost of extra work x stipulated period/ tendered cost, shall be considered.)

LI<sub>0</sub> : Minimum daily wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as on the last stipulated date of receipt of tender including extension, if any.

- (vii) The following principles will be followed while working out the compensation as per sub-para (vi) above.

- The minimum wage of an unskilled mazdoor mentioned in sub-para (vi) above shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration both relevant to the place of work and the period of reckoning.
- The escalation for labour also shall be paid at the same quarterly intervals when escalation due to increase in cost of materials is paid under this clause. If such revision of minimum wages takes place during any such quarterly intervals, the escalation compensation shall be payable at revised rates only for work done in subsequent quarters.
- Irrespective of variations in minimum wages of any category of labour, for the purpose of this clause, the variation in the rate for an unskilled mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component.

- (viii) In the event the price of materials and/or wages of labour required for execution of the work decrease/s, there shall be a downward adjustment of the cost of work so that such price of materials and/or wages of labour shall be deductible from the cost of work under this contract and in this regard the formula herein before stated under this Clause 10CC shall mutatis mutandis apply, provided that:

- no such adjustment for the decrease in the price of materials and/or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is equal to or less than the time as specified in Schedule 'F'.
- the Engineer-in-Charge shall otherwise be entitled to lay down the procedure by which the provision of this sub-clause shall be implemented from time to time and the decision of the Engineer-in-Charge in this behalf shall be final and binding on the contractor.

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(ix) Provided always that:-

- (a) Where provisions of clause 10CC are applicable, provisions of clause 10C will not be applicable but provisions of clause 10CA will be applicable.
- (b) Where provisions of clause 10CC are not applicable, provisions of clause 10C and 10CA will become applicable.

**Note: Updated stipulated date of completion (period of completion plus extra time for extra work for compensation under clause 10C, 10CA and 10CC)**

The factor of 1.25 taken into account for calculating the extra time under clause 12.1 for extra time shall not be considered while calculating the updated stipulated date of completion for this purpose in clause 10C, clause 10CA, and clause 10CC.

**CLAUSE 10 D**

Dismantled  
Material Govt.  
Property

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as Government's property and such materials shall be disposed off to the best advantage of Government according to the instructions in writing issued by the Engineer-in-Charge.

**CLAUSE 11**

Work to be  
Executed in  
Accordance with  
Specifications,  
Drawings, Orders  
etc.

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule 'F' or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

**CLAUSE 12:**

Deviations/  
Variations Extent  
and Pricing

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

The completion cost of any agreement for Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration shall not exceed 1.25 times of Tendered amount. Any further deviation beyond this limit upto 1.5 times of tendered amount shall be approved by Chief Engineer with recorded reason and in exceptional case, ADG shall have full power to approve the deviation beyond 1.50 times of tendered amount with recorded reason and take suitable corrective action.

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- (i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus
- (ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

12.2 A: For Project and original works:

In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, which shall include invoices, vouchers etc. and Manufacturer's specification for the work failing which the rate approved later by the Engineer-in-charge shall be binding and the Engineer-in-Charge shall within prescribed time limit of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined, failing which it will be deemed to have been approved.

B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:

In the case of Extra Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above/ below quoted contract amount.

Payment of Extra items in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.

A. For Project and original works:

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

(a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

(b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:

In the case of substitute item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above/below quoted contract amount. Payment of substitute items in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.

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Deviation,  
Deviated Quantities,  
Pricing

## A. For Project and original works:

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

## B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:

In the case of contract items, which exceed the limits laid down in schedule F, the contractor shall be paid rates specified in the schedule of quantities.

The prescribed time limits for finalising rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 30 days after submission of proposal by the contractor without observation of the Engineer-in-Charge.

## 12.3 A. For Project and original works:

The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

## B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:

In case of decrease in the rates prevailing in the market of items for the work in excess of the limits laid down in Schedule F, the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

12.4 The contractor shall send to the Engineer-in-Charge once every three months, an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Superintending Engineer may authorise consideration of such claims on merits.

12.5 For the purpose of operation of Schedule "F", the following works shall be treated as works relating to foundation unless & otherwise defined in the contract:

- (i) For Buildings : All works up to 1.2 metres above ground level or up to floor 1 level whichever is lower.
- (ii) For abutments, piers and well staining : All works up to 1.2 m above the bed level.
- (iii) For retaining walls, wing walls, compound walls, chimneys, over head reservoirs/ tanks and other elevated structures : All works up to 1.2 metres above the ground level.

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- (iv) For reservoirs/tanks (other than overhead reservoirs/tanks) : All works up to 1.2 metres above the ground level.
- (v) For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.
- (vi) For Roads, all items of excavation and filling including treatment of sub base.

12.6 Any operation incidental to or necessarily has to be in contemplation of tenderer while filing tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

## CLAUSE 13

**Foreclosure of  
contract due to  
Abandonment or  
Reduction in  
Scope of Work**

If at any time after acceptance of the tender or during the progress of work, the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope the Engineer-in-Charge shall give notice in writing to that effect to the contractor stating the decision as well as the cause for such decision and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure;

- (i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.
- (ii) Government shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however Government shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by Government, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.
- (iii) If any materials supplied by Government are rendered surplus, the same except normal wastage shall be returned by the contractor to Government at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to Government stores, if so required by Government, shall be paid.
- (iv) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
- (v) Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.

The contractor shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

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The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the Government as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the Government from the contractor under the terms of the contract.

In the event of action being taken under Clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid up to the extended date of completion or stipulated date of completion if no extension has been granted plus 60 days beyond that. Wherever such a fresh Performance Guarantee is furnished by the contractor the Engineer-in-Charge may return the previous Performance Guarantee.

## Clause 14

Carrying out part work at risk & cost of contractor

If contractor:

(i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or

(ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

(a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or

(b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work / part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Government because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by Government in completing the part

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work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by Government as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Government in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

## CLAUSE 15

## Suspension of Work

- (i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:

- on account of any default on the part of the contractor or;
- for proper execution of the works or part thereof for reasons other than the default of the contractor; or
- for safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

- (ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:

- the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
- If the total period of all such suspensions in respect of an item or group of items of work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.

- (iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the

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contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by Government or where it affects whole of the works, as an abandonment of the works by Government, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by Government, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

## CLAUSE 15 A

Compensation in case of Delay of Supply of Material by Govt.

The contractor shall not be entitled to claim any compensation from Government for the loss suffered by him on account of delay by Government in the supply of materials in schedule 'B' where such delay is covered by the difficulties relating to the supply of wagons, force majeure or any reasonable cause beyond the control of the Government.

This clause 15 A will not be applicable for works where no material is stipulated.

## CLAUSE 16

Action in case Work not done as per Specifications

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the Department or any organization engaged by the Department for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-Charge or his authorized subordinates in charge of the work or to the Chief Engineer in charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the Department for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in



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schedule 'F' may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

Contractor Liable  
for Damages,  
defects during  
defect liability  
period

## CLAUSE 17

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

## CLAUSE 18

Contractor to  
Supply Tools &  
Plants etc.

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants as specified in schedule F. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

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Recovery of  
Compensation paid  
to Workmen

## CLAUSE 18 A

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, Government is obliged to pay compensation to a workman employed by the contractor, in execution of the works, Government will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the Government under sub-section (2) of Section 12, of the said Act, Government shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Government to the contractor whether under this contract or otherwise. Government shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to Government full security for all costs for which Government might become liable in consequence of contesting such claim.

Ensuring  
Payment and  
Amenities to  
Workers if  
Contractor fails

## CLAUSE 18 B

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, Government is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, Government will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the Government under sub-section (2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, Government shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Government to the contractor whether under this contract or otherwise. Government shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the Government full security for all costs for which Government might become liable in contesting such claim.

Labour Laws to  
be complied by  
the Contractor

## CLAUSE 19

The contractor shall obtain a valid licence under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

## CLAUSE 19A

No labour below the age of fourteen years shall be employed on the work.

## Payment of Wages

## CLAUSE 19 B

Payment of wages:

- (i) The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's

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Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

- (ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
  - (iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Central Public Works Department contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorizedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
  - (iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
  - (b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.
- In the case of Union Territory of Delhi, however, as the all inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(162)MWO/DAB/4384-91, dated 31-12-1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.
- (v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.
  - (vi) The contractor shall indemnify and keep indemnified Government against payments to be made under and for the observance of the laws aforesaid and the C.P.W.D. Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
  - (vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
  - (viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.

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- (ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

**CLAUSE 19C**

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per C.P.W.D. Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

**CLAUSE 19 D**

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

- (1) the number of labourers employed by him on the work,
- (2) their working hours,
- (3) the wages paid to them,
- (4) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- (5) the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to Government, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Divisional Officer shall be final in deducting from any bill due to the contractor, the amount levied as fine and be binding on the contractor.

**CLAUSE 19 E**

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the Central Public Works Department and its contractors.

**CLAUSE 19 F**

Leave and pay during leave shall be regulated as follows:-

## 1. Leave:

- (i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
- (ii) in the case of miscarriage - upto 3 weeks from the date of miscarriage.

## 2. Pay:

- (i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
- (ii) in the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

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## 3. Conditions for the grant of Maternity Leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

## 4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix -I and II, and the same shall be kept at the place of work.

## CLAUSE 19 G

In the event of the contractor(s) committing a default or breach of any of the provisions of the Central Public Works Department, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Government a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the C.P.W.D. Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R & A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

## CLAUSE 19 H

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

- (i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.
- (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.

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- (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
- (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- (ii) (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutchra but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.
- (b) The contractor(s) shall provide each hut with proper ventilation.
- (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
- (d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.
- (iii) **Water Supply** - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/ their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.
- (iv) The site selected for the camp shall be high ground, removed from jungle.
- (v) **Disposal of Excreta** - The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- (vi) **Drainage** - The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.
- (vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- (viii) **Sanitation** - The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

## CLAUSE 19 I

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent

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or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE/JE will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.

**CLAUSE 19J**

It shall be the responsibility of the contractor to see that the building under construction is not occupied by any body unauthorizedly during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the Superintending Engineer whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the Superintending Engineer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

Employment of  
skilled/semi  
skilled workers

**CLAUSE 19K**

The contractor shall, at all stages of work, deploy skilled/semi skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crores.

Contribution of  
EPF and ESI

**CLAUSE 19L**

The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-Charge to the contractor on actual basis. The applicable and eligible amount of EPF&ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.

Minimum Wages  
Act to be Complied  
with

**CLAUSE 20**

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.

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Work not to be  
sublet. Action in  
case of  
insolvency

## CLAUSE 21

The contract shall not be assigned or sublet without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of Government in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the President of India shall have power to adopt the course specified in Clause 3 hereof in the interest of Government and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

## CLAUSE 22

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

Changes in firm's  
Constitution to be  
intimated

## CLAUSE 23

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

## CLAUSE 24

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

Settlement of  
Disputes &  
Arbitration

## CLAUSE 25

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

- (i) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge or If the Engineer in Charge considers any act or decision of the contractor on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable and is disputed, such party shall promptly within 15 days of the arising of the disputes request the Chief Engineer or where there is no Chief Engineer, the Additional Director General (CE/ADG) who shall refer the



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disputes to Dispute Redressal Committee (DRC) within 15 days along with a list of disputes with amounts claimed if any in respect of each such dispute. The Dispute Redressal Committee (DRC) shall give the opposing party two weeks for a written response, and, give its decision within a period of 60 days extendable by 30 days by consent of both the parties from the receipt of reference from CE/ADG. The constitution of Dispute Redressal Committee (DRC) shall be as indicated in Schedule 'F'. Provided that no party shall be represented before the Dispute Redressal Committee by an advocate/legal counsel etc.

If the Dispute Redressal Committee (DRC) fails to give its decision within the aforesaid period or any party is dissatisfied with the decision of Dispute Redressal Committee (DRC) or expiry of time limit given above, then either party may within a period of 30 days from the receipt of the decision of Dispute Redressal Committee (DRC), give notice to the Chief Engineer, CPWD, in charge of the work or if there be no Chief Engineer, the Additional Director General of the concerned region of CPWD or if there be no Additional Director General, the Director General, CPWD (CE/ADG/DG) for appointment of arbitrator on prescribed proforma as per Appendix XV under intimation to the other party.

It is a term of contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking arbitration.

The CE/ADG/DG shall in such case appoint the sole arbitrator or one of the three arbitrators as the case may be within 30 days of receipt of such a request and refer such disputes to arbitration. Wherever the Arbitral Tribunal consists of three Arbitrators, the contractor shall appoint one arbitrator within 30 days of making request for arbitration or of receipt of request by Engineer-in-charge to CE/ADG/DG for appointment of arbitrator, as the case may be, and two appointed arbitrators shall appoint the third arbitrator who shall act as the Presiding Arbitrator. In the event of

- a. A party fails to appoint the second Arbitrator, or
- b. The two appointed Arbitrators fail to appoint the Presiding Arbitrator, then

The Director General, CPWD shall appoint the second or Presiding Arbitrator as the case may be.

- (ii) Disputes or difference shall be referred for adjudication through arbitration by a Tribunal having sole arbitrator where Tendered amount is Rs. 100 Crore or less. Where Tendered Value is more than Rs. 100 Crore, Tribunal shall consist of three Arbitrators as above. The requirements of the Arbitration and Conciliation Act, 1996 (26 of 1996) and any further statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall be applicable.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed, if any, in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the decision of the DRC.

It is also a term of this contract that any member of the Arbitration Tribunal shall be a Graduate Engineer with experience in handling public works engineering contracts at a level not lower than Chief Engineer (Joint Secretary level of Government of India). This shall be treated as a mandatory qualification to be appointed as arbitrator.

Parties, before or at the time of appointment of Arbitral Tribunal may agree in writing for fast track arbitration as per the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015.

Subject to provision in the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended

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In 2015 whereby the counter claims if any can be directly filed before the arbitrator without any requirement of reference by the appointing authority, the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000/-, the arbitrator shall give reasons for the award.

It is also a term of the contract that if any fees are payable to the arbitrator, these shall be paid as per the Act.

The place of arbitration shall be as mentioned in Schedule F. In case there is no mention of place of arbitration, the arbitral tribunal shall determine the place of arbitration.

The venue of the arbitration shall be such place as may be fixed by the Arbitral Tribunal in consultation with both the parties. Failing any such agreement, then the Arbitral Tribunal shall decide the venue.

## CLAUSE 26

Contractor to  
Indemnify Govt.  
against Patent  
Rights

The contractor shall fully indemnify and keep indemnified the President of India against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against Government in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom, provided that the contractor shall not be liable to indemnify the President of India if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

## CLAUSE 27

Lumpsum  
Provisions in  
Tender

When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

## CLAUSE 28

Action where no  
Specifications are  
specified

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case, there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

## CLAUSE 29

Withholding and  
lien in respect of  
sum due from  
contractor

(i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the Government shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the Government shall be entitled to withhold the security deposit,

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if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the Government shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the Government or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or Government will be kept withheld or retained as such by the Engineer-in-Charge or Government till the claim arising out of or under the contract is determined by the arbitrator (if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the Government shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

- (ii) Government shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for Government to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Government to the contractor, without any interest thereon whatsoever.

Provided that the Government shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Superintending Engineer or Executive Engineer on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Superintending Engineer or the Executive Engineer.

## CLAUSE 29A

Lien in respect  
of claims in  
other Contracts

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Government or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or Government or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the Government or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under

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this clause by the Engineer-in-Charge or the Government will be kept withheld or retained as such by the Engineer-in-Charge or the Government or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

Employment of coal mining or controlled area labour not permissible

## CLAUSE 30

The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever on or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only i.e., deposit imported labour or labour imported by contractors from area, from which import is permitted.

Where ceiling price for imported labour has been fixed by State or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the contractor.

The contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to Government a sum calculated at the rate of Rs.10/- per day per labourer. The certificate of the Engineer-in-Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final and binding upon all parties to this contract.

It is declared and agreed between the parties that the aforesaid stipulation in this clause is one in which the public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872.

Explanation:- Controlled Area means the following areas:

Districts of Dhanbad, Hazaribagh, Jamtara - a Sub-Division under Santhal Pargana Commissionery, Districts of Bankura, Birbhum, Burdwan, District of Bilaspur.

Any other area which may be declared a Controlled Area by or with the approval of the Central Government.

Unfiltered water supply

## CLAUSE 31

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

- (i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.
- (ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

Departmental water supply, if available

## CLAUSE 31 A

Water if available may be supplied to the contractor by the department subject to the following conditions:-

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- (i) The water charges @ 1 % shall be recovered on gross amount of the work done.
- (ii) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.
- (iii) The Department do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor(s) to make alternative arrangements for water at his/ their own cost in the event of any temporary break down in the Government water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.

## CLAUSE 32

## Alternate water arrangements

- (i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the Government, no charge shall be recovered from the contractor on that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damages and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.
- (ii) The contractor shall be allowed to construct temporary wells in Government land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damages to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damages caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

## CLAUSE 33

## Return of Surplus materials

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of Government either by issue from Government stocks or purchase made under orders or permits or licences issued by Government, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the Government and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the licence or permit and/or for criminal breach of trust, be liable to Government for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

## CLAUSE 34

## Hire of Plant &amp; Machinery

- (i) The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work except for the Plant & Machinery listed in Schedule 'C' and stipulated for issue to the contractor. If the contractor requires any item of T&P on hire from the T&P available with the Government over and above the T&P stipulated for issue, the Government will, if such item is available, hire it

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to the contractor at rates to be agreed upon between him and the Engineer-in-Charge. In such a case, all the conditions hereunder for issue of T&P shall also be applicable to such T&P as is agreed to be issued.

- (ii) Plant and Machinery when supplied on hire charges shown in Schedule 'C' shall be made over and taken back at the departmental equipment yard/shed shown in Schedule 'C' and the contractor shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Divisional Engineer shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- (iii) The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his programme of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the Department.
- (iv) The hire charges shall be recovered at the prescribed rates from and inclusive of the date the plant and machinery made over upto and inclusive of the date of the return in good order even though the same may not have been working for any cause except major breakdown due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holidays and Sundays) for bringing the plant in order. The contractor shall immediately intimate in writing to the Engineer-in-Charge when any plant or machinery gets out of order requiring major repairs as aforesaid. The Engineer-in-Charge shall record the date and time of receipt of such intimation in the log sheet of the plant or machinery. Based on this, if the breakdown before lunch period or major breakdown will be computed considering half a day's breakdown on the day of complaint. If the breakdown occurs in the post lunch period of major breakdown will be computed starting from the next working day. In case of any dispute under this clause, the decision of the Superintending Engineer shall be final and binding on the contractor.
- (v) The hire charges shown above are for each day of 8 hours (inclusive of the one hour lunch break) or part thereof.
- (vi) Hire charges will include service of operating staff as required and also supply of lubricating oil and stores for cleaning purposes. Power fuel of approved type, firewood, kerosene oil etc. for running the plant and machinery and also the full time chowkidar for guarding the plant and machinery against any loss or damage shall be arranged by the contractor who shall be fully responsible for the safeguard and security of plant and machinery. The contractor shall on or before the supply of plant and machinery sign an agreement indemnifying the Department against any loss or damage caused to the plant and machinery either during transit or at site of work.
- (vii) Ordinarily, no plant and machinery shall work for more than 8 hours a day inclusive of one hour lunch break. In case of an urgent work however, the Engineer-in-Charge may, at his discretion, allow the plant and machinery to be worked for more than normal period of 8 hours a day. In that case, the hourly hire charges for overtime to be borne by the contractor shall be 50% more than the normal proportionate hourly charges (1/8th of the daily charges) subject to a minimum of half day's normal charges on any particular day. For working out hire charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.
- (viii) The contractor shall release the plant and machinery every seventh day for periodical

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servicing and/or wash out which may take about three to four hours or more. Hire charges for full day shall be recovered from the contractor for the day of servicing/ wash out irrespective of the period employed in servicing.

- (ix) The plant and machinery once issued to the contractor shall not be returned by him on account of lack of arrangements of labour and materials, etc. on his part, the same will be returned only when they are required for major repairs or when in the opinion of the Engineer-in-Charge, the work or a portion of work for which the same was issued is completed.
- (x) Log Book for recording the hours of daily work for each of the plant and machinery supplied to the contractor will be maintained by the Department and will be countersigned by the contractor or his authorized agent daily. In case the contractor contests the correctness of the entries and/or fails to sign the Log Book, the decision of the Engineer-in-Charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log Book and will be binding on the contractor. Recovery on account of hire charges for road rollers shall be made for the minimum number of days worked out on the assumption that a roller can consolidate per day and maximum quantity of materials or area surfacing as noted against each in the annexed statement (see attached annexure).
- (xi) In the case of concrete mixers, the contractors shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion.
- (a) In case, rollers for consolidation are employed by the contractor himself, log book for such rollers shall be maintained in the same manner as is done in case of departmental rollers, maximum quantity of any items to be consolidated for each roller-day shall also be same as in Annexure to Clause 34(x). For less use of rollers, recovery for the less roller days shall be made at the stipulated issue rate.
- (xii) The contractor shall be responsible to return the plant and machinery in the condition in which it was handed over to him and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation or otherwise or during transit including damage to or loss of parts, and for all losses due to his failure to return the same, soon after the completion of the work, for which it was issued. The Divisional Engineer shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- (xiii) The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer-in-Charge to suspend execution of the work, provided Government plant and machinery in question have, in fact, remained idle with the contractor because of the suspension.
- (xiv) In the event of the contractor not requiring any item of plant and machinery issued by Government though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer-in-Charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.

## CLAUSE 35

Condition relating to use of asphaltic materials

- (i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.
- (ii) The contractor shall collect the total quantity of tar or bitumen required for the work as

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per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material return to the contractors. Although the materials are hypothecated to Government, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.

- (iii) The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period.

## CLAUSE 36

Contractors Superintendence, Supervision, Technical Staff & Employees

Employment of  
Technical Staff  
and employees

- (i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Schedule 'F'. The Engineer-in-Charge shall within 3 days of receipt of such communication, intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-Charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/ checked measurements/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work, in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

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If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) alongwith every on account bill final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

- (ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

## CLAUSE 37

Levy/Taxes  
payable by  
Contractor

- (i) GST, Building and other Construction Workers Welfare Cess or any other tax, levy or Cess in respect of input for or output by this contract shall be payable by the contractor and Government shall not entertain any claim whatsoever in this respect except as provided under Clause 38.
- (ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Government of India and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the Government of India and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

## CLAUSE 38

Conditions for  
reimbursement  
of levy/taxes if  
levied after  
receipt of  
tenders

- (i) All tendered rates shall be inclusive any tax, levy or cess applicable on last stipulated date of receipt of tender including extension if any. No adjustment i.e. increase or decrease shall be made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs.

However, effect of variation in rates of GST or Building and Other Construction Workers

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Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.

Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible, for delay as determined by authority for extension of time under Clause 5 in Schedule F.

- (ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Government and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

## CLAUSE 39

Termination of Contract on death of contractor

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Divisional Officer on behalf of the President of India shall have the option of terminating the contract without compensation to the contractor.

## CLAUSE 40

If relative working in CPWD then the contractor not allowed to tender

The contractor shall not be permitted to tender for works in the CPWD circle (Division in case of contractors of Horticulture/Nursery categories) responsible for award and execution of contracts in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of the Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted Officer in the C.P.W.D. or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department. If however, the contractor is registered in any other department, he shall be debarred from tendering in CPWD for any breach of this condition.

NOTE: By the term "near relatives" is meant wife, husband, parents and grand parents, children and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

## CLAUSE 41

No Gazetted Engineer to work as Contractor within one year of retirement

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

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The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials.

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# CLAUSES OF CONTRACT



materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed, but not already measured and paid for, the compensation shall be assessed by the Divisional Officer upto Rs.5,000/- and by the Superintending Engineer concerned for a higher amount. The contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Divisional Officer.

## CLAUSE 44

Apprentices Act provisions to be complied with

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

## CLAUSE 45

Release of Security deposit after labour clearance

Release of Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as the work is virtually complete, the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

## NOTE:

In case of difference or ambiguity in Hindi and English version, the English version will prevail.



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# PART-B (CIVIL WORKS)

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## PROFORMA OF SCHEDULES

### SCHEDULE 'A'

Schedule of Quantities attached on page No.182 to 215  
(Civil Work Page 182 to 215)

### SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

Sl. No.	Description of Item	Quantity	Rates in Figure & Words at which the material will be charged to the contractor	Place of Issue
1	2	3	4	5
--- NIL---				
Note :- All the materials to be arranged by the contractor as per the conditions attached and IS codes				

### SCHEDULE 'C'

Tools and Plants to be hired to the contractor

Sl.No.	Description	Hire charges per day	Place of issue
1	2	3	4
---- NIL----			

### SCHEDULE 'D'

Extra schedule for specific requirements / documents  
for the work, if any : Attached as Terms & Conditions and Particular Specifications

### SCHEDULE 'E'

Reference to General Conditions of contract:

General conditions of contract for CPWD works-2014 read with amendments attached and correction slips, if any, issued upto the last date of submission of bid

**NAME OF WORK: - Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)**

Estimated Cost :-Rs. 38,22,66,940/- (Elect.-Rs. 4,61,39,301/- + Civil-Rs. 33,61,27,639/-)  
Earnest Money :-Rs. 48,22,669/-  
Performance Guarantee :- 5% of Agreement Amount.  
Security Deposit :- 2.5% of Agreement Amount.

### SCHEDULE 'F'

General Rules & Directions:

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Officer Inviting Tender Executive Engineer, SRD Project Division-I, (M-241) PWD, (GNCTD),  
Loknayak Setu, Yamuna Western Bank, New Delhi-110002

Maximum percentage for quantity of items of work to  
be executed beyond which rates are to be determined  
in accordance with Clauses 12.2 & 12.3.

See below.

Definitions:

2(v) Engineer-in-Charge

Executive Engineer, SRD Project Division-I  
(M-241) PWD (GNCTD), Loknayak Setu,  
Yamuna Western Bank, New Delhi

2(vii) Accepting Authority

As per financial provisions of Manual-2014 with  
upto date correction slips

2(x) Percentage on cost of materials and  
labour to cover all overheads and  
profits.

15%

2(xi) Standard Schedule of Rates

DSR- 2016 for Civil Work (+) 15.69% cost  
index(-) 9.50% as per Delhi Govt. Circular with  
amendment issued upto the last date prescribed for  
submission of tender.

2(xii) Department

PWD (GNCTD)

2(xiii) Standard CPWD contract Form

GCC 2014 C.P.W.D form 7 of year 2014 modified  
and corrected upto last date of submission of  
tender.

**Clause 1**

(i) Time allowed for submission of  
Performance Guarantee, Programme  
Chart (Time & Progress) and applicable  
labour licenses, Registration with EPFO,  
ESIC and BOCW Welfare Board or proof  
of applying thereof from the date of issue  
of letter of acceptance., in days:

7 Days

(ii) Maximum allowable extension with late fee  
@ 0.1% per day of performance Guarantee amount  
beyond the period provided in (i) above in days

3day

**Clause 2**

Authority for fixing compensation  
under clause 2.

SE(Project),

**Clause 2A.**

Not applicable.

**Clause 5**

Number of days from the date of issue of letter  
Of acceptance for reckoning date of start

7 days

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**TABLE OF MILE STONE (S)**

S. No.	Financial progress	Time allowed (from date of start)	Amount to be with-held in case of non-achievement of milestone
1.	1/8 <sup>th</sup> (of whole work)	1/4 <sup>th</sup> (of the whole work)	In the event of not achieving the necessary progress as assessed from the running payment, 1% of the tendered value of work will be withheld for failure of each mile stone.
2.	3/8 <sup>th</sup> (of whole work)	1/2 <sup>nd</sup> (of the whole work)	
3.	3/4 <sup>th</sup> (of whole work)	3/4 <sup>th</sup> (of the whole work)	
4.	Full	Full	

Time allowed for execution of work. - 09 (Nine) Months.

**Authority to decide**

- |                                   |   |             |
|-----------------------------------|---|-------------|
| (i) Extension of time             | - | SE(Project) |
| (ii) Rescheduling of miles stones | - | SE(Project) |
| (iii) Shifting of date of start   | - | SE(Project) |

**Clause 6**

Clause applicable (6, 6A)

6A applicable

**Clause 7**

Gross work to be done together with net payment/adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.

**02 Crore.**

**Clause 7A shall applicable**

Yes

**Clause 10 A**

As per scope of work and as per direction of Engineer-in-Charge

**Clause 10 B (ii)**

N.A

**Clause 10 C**

Component of labour expressed as percentage of value of work = 10%

**Clause 10 CA**

Applicable

S. No	Material Covered under this clause:	Nearest Materials (other than cement, reinforcement bars and structural steel) for which All India Wholesale Price Index to be followed:	Base Price as well as price index for all the materials covered under Clause 10 CA
1	Cement (OPC)	NIL	Rs. 4648/- Per M.T. (July 2018) without GST
2	Reinforcement Bar TMT 500-12MM	NIL	Rs. 43220/- Per M.T. (July 2018) without GST
3	Structural Steel	NIL	Rs. 44565/- Per M.T. (July 2018) without GST

**Clause 10CC**

Applicable

Schedule of component of other Materials, Labour, POL etc. for price escalation

Component of material (Except cement, structural steel, reinforcement bars POL and other materials covered under clause 10CA) expressed as percent of the total value of work. Xm

40%

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Component of labour expressed as percent of total value of work. Y 25%

Component of POL expressed as percent of total value of work. Z Nil

#### Clause 11

Specifications to be followed for execution of work

CPWD Specification for Works 2009 Vol I & II with upto date Correction slips till the date of receipt of tenders

#### Clause 12

- (i) Deviation limit beyond which clause 12.2 & 12.3 shall apply for Building work superstructure. 30 %
- (ii) Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work 100%
- (iii) For road upto Sub-Grade 100%
- (iv) Above Sub-Grade. 30%

#### Type of work

Original Work

#### Clause 16

Competent Authority for deciding reduced rates

Superintending Engineer  
Project, PWD

#### Clause 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site

As per requirement at site and as per direction of Engineer-in-Charge

#### Clause 25

Constitution of Dispute Redressal Committee (DRC)	
<b>A. DRC for total claims more than Rs. 25 Lacs:</b>	
1. Chairman- Chief Engineer (North), PWD.	
2. Member – Director of Works, PWD (GNCTD).	
3. Member: - Superintending Engineer (C&ND), PWD (GNCTD).	
4. Member: - Superintending Engineer (Project) will present the case.	
<b>B. DRC for total claims upto Rs. 25 Lacs:</b>	
1. Chairman- Director of Works, PWD (GNCTD).	
2. Member – EE, M-413, PWD, Delhi.	
3. Member – EE(P), C&ND Circle, PWD, Delhi.	
4. Member – EE, M-241, PWD, Delhi. (Only to present the case)	

#### Clause 36

Minimum qualifications & Experience required for Principal Technical Representative.

Clause 36(i): "Requirement of Technical Representative(s) and Recovery Rate"						
Sl. No.	Minimum Qualification of technical representative	No.	Minimum Experience (years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)	
					Figure	Words
1.	Graduate Engineer	1	20 (and having experience of one similar nature of work)	Project Manager	Rs. 60,000/- per month	Rs. Sixty Thousand per month
2	Graduate Engineer	1+1	12 (and having experience of one similar nature of work)	Deputy Project Manager	Rs. 40,000/- per month	Rs. Forty Thousand per month
3	Graduate Engineer Or Diploma Engineer	2+1	5 or 10 respectively	Project/Site Engineer	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month

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4	Graduate Engineer	1	8	Quality Engineer	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
5	Diploma Engineer	1	8	Surveyor	Rs. 15,000/- per month	Rs. Fifteen Thousand per month
6	Graduate Engineer	1+1	6	Project Planning/billing Engineer	Rs. 20,000/- per month	Rs. Twenty Thousand per month

Assistant Engineers Retired from Govt. Services that are holding diploma will be treated at par with the Graduate Engineer.

Diploma Engineer with minimum 10 year relevant experience with a reputed construction co. Can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

#### Clause 42

- i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates DSR 2016 printed by CPWD.
- (ii) Variations permissible on theoretical quantities.
  - a) Cement  
Cement for works with estimated cost put to tender not more than Rs. 5 Lakh. **3% Plus/Minus**  
For works with estimated cost put to Tender more than Rs. 5 lakh. **2% plus/minus**
  - b) Bitumen for all works. **2.5% Plus side only and Nil on Minus side.**
  - c) Steel reinforcement and structural steel sections for each diameter, section and category. **2% Plus/Minus**
  - d) All other materials. **Nil.**

#### RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

S. No.	Description of Item	Rates in figures and words at which recovery shall be made from the contractor.	
		Excess beyond Permissible variation	Less use upto the permissible Variation
1.	Cement (OPC)	Nil	Not allowed as the work will be rejected
2.	Reinforcement Bar TMT 500-12MM	Nil	
3.	Structural Steel	Nil	

Executive Engineer  
SRD Division-I, PWD.

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## SALIENT HIGHLIGHTS OF THE TENDER

**Name of work:** Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)

The contractor shall submit a detailed programme of execution of work showing activities distinctly along with Bar-Chart and PERT chart within two weeks from the date of award of work. Monthly Progress report shall be submitted at the end of every month failing of which a recovery of 20,000/- per month will be made on the bill

1. The contractor (s) shall make his own arrangement for electricity and water required for the execution of work and nothing extra shall be paid for the same. However, the Engineer-in-Charge shall recommend the application to the BSES Yamuna Power for electric connection, if desired. Necessary payment shall be made by the contractor directly to the department concerned. In case BSES Yamuna Power fails to sanction the electric connection or delays the sanction for electric connection; the contractor shall make his own arrangement by providing diesel generators of adequate capacity at his own cost.
2. For water supply, contractor shall make his own arrangements including boring of tube well, if necessary and nothing extra shall be paid by the Department for arrangement of water or on its treatment as per IS : 456/2000, para 5.4 of CPWD specifications 2009 volume-I to II with upto date correction slips.
3. All the materials including cement and steel (T.M.T Bars) will be arrangement by the contractor himself and nothing extra shall be paid for cartage of material to site of work.
4. Contractor has to arrange ready mix concrete and nothing extra on account of cartage shall be paid
5. The contractor shall pump the concrete wherever necessary to expedite the progress of work. Nothing extra shall be paid on this account.
6. For lifting of concrete to various levels, tower cranes/ mechanical hoist of appropriate size/ capacity shall be deployed by the contractor. Nothing extra shall be paid on this account.
7. **Quality Assurance**
- 7.1 The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed alongwith check lists to enforce quality control.
- 7.2 The contractor shall get the source of various raw materials namely aggregate, cement, sand, steel, water etc. to be used on the work, approved from the Engineer-in-Charge and trial mixes for controlled concrete shall be done using the approved materials. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost.
- 7.3 The contractor shall submit all drawings of staging and shuttering arrangement, aluminum work polycarbonate sheet cover for approval of Engineer-in-Charge before execution.

### 8. Safety Precautions

Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for construction and studying school children and avoidance of accidents.

### 9. Scaffolding

The execution site shall be covered with **view cutter cloth** after having fixed over double steel scaffolding having two sets of vertical supports. The supports shall be sound and strong, tied together with horizontal piece over which scaffolding planks shall be fixed. **No payment shall be made for all operations, mentioned above.**

### 10. Sub- letting

Un- authorized sub- letting of work shall not be permitted.

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## GENERAL CONDITIONS

## 1.0 Scope of work

- (i) The scope of work also includes Preliminary works like setting and maintenance of permanent bench marks reference points, central line of the carriageway etc. It shall also include making adjustment in the layout if required as per site conditions and as directed by the Engineer-in-Charge. The layout shall be got approved from the Engineer-in-charge before starting actual work. Existing levels of the area under the scope of work shall also be recorded.
- (ii) Clearing of site for construction of the work and all activities connected therewith before commencement of work to the satisfaction of the Engineer-in-Charge.
- (iii) Clearing of site ( to be satisfaction of the Engineer-in-Charge) after completion of entire work and handing over the same to the department.
- (iv) All the exposed concrete surfaces shall have shutter or form liner finish (except for piles and lean concrete) and nothing shall be paid extra for the same.
- (v) Maintenance of all works during construction till handing over to the Department.
- (vi) Protection and maintenance of existing services.
- (vii) Provision for all safety measures for traffic, pedestrian workmen, machinery etc. as considered necessary by the Engineer-in-charge.
- (viii) Identification of services like sewer lines, water supply lines, electric and telephone cables etc. well in advance of actual execution.
- (ix) It may be noted that all the safety requirements as may be felt necessary by the Engineer- in-Charge, shall have to be provided for allowing the traffic to pass underneath the superstructure at all times during the construction period.
- (x) In case of defective construction by the contractor or on account of any other reason attributable to the contractor if the consultants appointed by the department, .submit additional claims for re-designing on account of additional input by them, due to such reasons, the same shall also be borne by the contractor. The opinion of the Engineer-in-charge in these matters shall be final and binding.
- (xi) All ancillary and incidental facilities required for execution of the work i.e. labour camps, stores, offices for contractors, work shop facilities, watch and ward, temporary structure for plants and machinery, well equipped. site laboratory as mentioned in the tender; document, water storage structure, tube wells, electric /telephone installation and charges, liaison work, protection work during execution and not included in the main items, any other item /activity contained elsewhere in the tender documents which is necessary for. execution of work in the opinion of the Engineer-in-Charge.
- (xii) Pumping and bailing out water in suitable manner as directed by Engineer-in-Charge.
- (xiii) It is also made clear that intending tenderer should visit the sites of work including contractor's compound and physically assess the activities which are involved for completing the work, including the quantum of work besides the information supplied in the tender document. No claim whatsoever shall be entertained on this account.
- (xiv) The construction agencies shall make arrangement for a regular fortnightly or other frequency as desired by Engineer-in-Charge for the documentation of the progress of work.
- (xv) Agency has to construct his own site office. Nothing extra is payable on this account.
- (xvi) Activities related to setting of various items such as permanent bench-marks, reference points, central line of carriageway, layout of foundations and bearings etc. shall be performed by total station survey.
- (xvii) Services like water supply lines, sewer lines, storm water drains, electricity lines, telephone lines over head and under ground cables /structure, if any falling in the alignment of the work, (which are required to be removed or shifted in the opinion of the Engineer-in-Charge) shall be removed /shifted by the department if found necessary by the Engineer-in-charge. Time taken for its shifting, removal, diversion shall be accounted for towards according extension of times if it actually causes hindrance in execution as per the discretion of the Engineer-in-Charge. No claim for delay or otherwise due to above reasons shall be entertained on this account.

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- (xviii) The contractor shall remove the malba on daily basis at his own cost and keep the carriageways & footpaths neat and clean during the execution of the work. In case the Agency fails to remove the malba, the same shall be removed by the department at his risk and cost.

## 2.0 SITE CONDITIONS AND LOCATION

Site conditions given hereunder and elsewhere are given as guidelines and contractor shall satisfy himself regarding all aspects of site conditions and no claim will be entertained on the plea that the information supplied by the department is erroneous or insufficient.

### 2.1 **Location**

Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work).

Work has to be executed without disrupting the traffic and thus, limited space shall be available for execution of the work. The contractor will have to carefully plan his sequence of operations so that the traffic moves unhindered at all times. The traffic diversion plan evolved by the contractor for execution of the work at all locations will require approval of Delhi Traffic Police and of the department. Modifications suggested by the Traffic Police and also by the department shall be implemented by the contractor during execution of the work.

### 2.2 **Climatic conditions**

The climate in the region is extreme with three major seasons- winter, summer and rainy. The winter season lasts from October to March, summer season from April to June and rainy season from July to September. This is only for guidance and there may be variations.

### 2.3 **Housing, water supply, Drainage and Electricity**

No accommodation is available at the site of work. The contractor has to make his own arrangements for electric connection, housing, stores and field offices, accommodations for his labour and other employees etc. Contractor should visit the site and see in what manner he is able to arrange the above. Arrangement of water for drinking purpose in addition to the water required for construction work is also to be made by the contractor. No other space shall be made available at work site except for temporary site office/ contractor's compound. However onus will be on contractor to arrange the space on its own. No claim whatsoever will be entertained on this account.

2.3.1 It shall be deemed that the contractor has satisfied himself as to the nature and location of the work, general and local conditions and particularly those pertaining to transport, handling and storage of materials, availability of labour, weather conditions at site and general ground / sub soil conditions and the contractor has to estimate his cost accordingly.

2.3.2 The PWD will bear no responsibility for the lack of such knowledge and also the consequence thereof to the contractor. The information and site data shown in the drawings and mentioned herein and else where in these tender documents are furnished for general information and guidance only. The Engineer-in-charge in no case shall be held responsible for the accuracy thereof or / and whatsoever, interpretations or conclusions drawn there from/ by the contractor and no claim shall be entertained whatsoever if the site conditions/ information is different or other wise incorrect as it is presumed that the contractor has satisfied himself for all possible contingencies, situations, bottlenecks and acts of coordination which may be required between the different agencies.

2.3.3 In case of flooding of site on account of rain or any other cause, or any other damage whatsoever, no claim financially or otherwise shall be entertained, notwithstanding any other provisions elsewhere in the tender documents.

3.1 All the materials including cement and steel (T.M.T Bars) will be arrangement by the contractor himself and nothing extra shall be paid for cartage of material to site of work.

3.2 Contractor has to arrange and install at site batching plant of adequate capacity for controlled concrete mix during the execution of work or alternatively arrange ready mix concrete and nothing extra shall be paid on this account.

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- 3.3 The contractor shall pump the concrete wherever necessary to expedite the progress of work. Nothing extra shall be paid on this account.
- 3.4 For lifting of concrete to various levels, tower cranes/ mechanical hoist of appropriate size/ capacity shall be deployed by the contractor. Nothing extra shall be paid on this account.

**Quality Assurance.**

- 4.0 The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed alongwith check lists to enforce quality control.
- 4.1 The contractor shall get the source of various raw materials namely aggregate, cement, sand, steel, water etc. to be used on the work, approved from the Engineer-in-Charge and trial mixes for controlled concrete shall be done using the approved materials. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost.
- 4.2 Similarly, the contractor shall submit brand/ make of various materials to be used for the approval of the Engineer-in-Charge alongwith samples and once approved, he shall stick to it.
- 4.3 The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work polycarbonate sheet cover for approval of Engineer-in-Charge before execution.

**Safety Precautions -**

Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for construction and avoidance of accidents.

**5.0 Scaffolding**

For facia work, double steel scaffolding having two sets of vertical supports shall be used. The supports shall be sound and strong, tied together with horizontal piece over which scaffolding planks shall be fixed.

**6.0 Sub- letting**

Un- authorized sub- letting of work shall not be permitted.

- 7.0 3<sup>rd</sup> party quality assurance/ control work for this work shall be done by Delhi Technical University, Delhi, IIT Delhi, CRRRI Delhi, IIT Roorkee or Punjab Engineering College, Chandigarh. If the samples fail in testing the testing charges shall be borne by the contractor and for passed samples testing charges shall be paid by the department.

*Amend*  
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## ADDITIONAL CONDITIONS

1. The work shall be carried out in such a manner so as not to interfere or affect or disturb other works, being executed by other agencies, if any.
2. Any damage done by the contractor to any existing work shall be made good by him at his own cost.
3. The work shall be carried out in the manner complying in all respects with the requirement of relevant byelaws of the local bodies under the jurisdiction of which the work is to be executed and nothing extra shall be paid on this account.
4. The contractor shall make his own arrangement for obtaining electric connection (s) if required, and make necessary payment directly to the department concerned. The department will however make all reasonable recommendations to the authority concerned in this regard.
5. The Contractor or his authorized representative should always be available at the site of work to take instructions from departmental officers, and ensure proper execution of work. No work should be done in the absence of such authorized representative.
6. The structural and other drawings for the work shall at all times, be properly correlated before executing any work and no claim whatsoever shall be entertained in this respect.
7. The contractor shall maintain in good condition, all works executed till the completion of entire work allotted to the contractor.
8. Royalty at the prevalent rates and all other incidental expenditure shall have to be paid by the contractor on all the, metal shingle, earth sand, bajri etc. collected by him for the execution of the work direct to the concerned Revenue Authority of the State or Central Govt. His rates are deemed to include all such expenditure and nothing extra shall be paid.
9. The malba / garbage, removed from the site shall be disposed off by the contractor at any suitable place as directed by the Engineer-in-Charge. Nothing extra shall be paid on this account.
10. All work and materials brought and left upon the ground by the contractor or by his order for the purpose of forming part of the works, are to be considered to be the property of the President of India and the same are not to be removed or taken away by the contractor or any other person without special license and consent in writing of the Engineer-in-Charge, but the President of India is not to be in any way responsible for any loss or damage which may happen to or in respect of any such work or materials either by the same being lost or damaged by weather or otherwise.
11. The contractor should quote the rate in Schedule of Quantity in figures as well as in words. In case of discrepancy in the amount in figures and words the amount in words shall be taken as quoted amount. If he does not quote his rate for any item (s), leaving the space blank whatsoever, it will be presumed that he has loaded the cost of this / these items (s) on the other items and he will execute this / these item (s) at zero cost and the tender will be evaluated accordingly.  
Special care should be taken to write the quoted rates in figures as well as in words, in such a way that interpolation is not possible. In case of figures the word 'Rs' should be written before the figures of rupees and words 'P' after the decimal figures e.g. Rs. 6.45 p and in case of words, the word 'Rupees' should precede and the words 'paise' should be written at the end, Unless the rate is in whole rupees and followed by the words "only" it should invariably be upto two decimal place. While quoting the rates in Schedule of Quantity the word 'only' should be written closely following the amount and it should not be written in the next line.
12. Unless otherwise provided in the schedule of quantities the rates, tendered by the contractor shall be all-inclusive and shall apply to all heights, depths, leads and lifts.
13. The contractor shall construct suitable godown at the contractor's compound for storing the materials safe against damage due to sun, rain dampness, fire, theft etc. He shall also employ necessary watch and ward establishment for the purpose and no extra claim whatsoever shall be entertained on this account.
14. In the tender paper the word "CPWD" shall include PWD (GNCTD) wherever exists.

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15. Cement bags shall be stored in two separate godowns, one for tested cement and the other for fresh cement (under testing). These godowns shall be constructed by the contractor at his own cost as per sketch given in the general conditions of contract for CPWD works-2010 with weather proof roofs and walls. The size of the cement godown is indicated in the sketch for guidance only. The actual size of godown shall be as per site requirements and nothing extra shall be paid for the same. The decision of the Engineer-in-Charge regarding the capacity needed will be final. However, the capacity of each godown shall not be less than 200 tonnes. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with Engineer-in-Charge of the work and that of other lock with the authorized agent of the contractor at the site of work so that the cement is issued from godown accordingly to the daily requirement with the knowledge of both parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed proforma and signed daily by the contractor or his authorized agent in token of its correctness.
16. Material shall be kept in joint custody of the contractor and the representative of the Engineer-in-charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.
- ✓ 17. The area shall be kept dry when the work is in progress even below water table. Nothing extra shall be paid for removal of slush / sludge, bailing out water due to sub-soil condition, rains, spring etc.
18. If required the contractor shall have to work during nights also. He shall make the necessary arrangements for lights etc. for nights or even if lights are required due to any other reason. Nothing extra shall be paid on this account. The rates shall include the above elements.
19. The contractor shall have to make his own arrangement for housing facilities for staff and labour away from construction site and shall have to transport the labour to and from between construction site and labour camp at his own cost. No labour huts will be allowed to be constructed at the project site except a few temporary sheds for chowkidars and storekeepers. The decision about how many huts can be allowed for chowkidars and storekeepers at project site shall rest with the Engineer-in-Charge and the contractor shall have no claim on this account.
20. Labour cess @ 1% (one percent) of the gross value of work done shall be deducted as per Building & other construction workers' (RE&CS) Act 1996 (Main Act) and the Building & other construction workers' Welfare Cess Act 1996 (Cess Act) in the National Capital Territory of Delhi.
21. The contractor shall deduct worker subscription towards Provident Fund and ESI, as per rules, he shall deposit the same into the respective accounts of the worker and submit the details and documentary proof in support of claim of reimbursement of ESIC/ EPF to divisional office for verification, which shall be reimbursed only after verification.
- ✓ 22. Documentary proof of disbursement of wages to the workers. The copy of documentary proof of ECS / RTGS shall be produced with each R/A bill and final bill.
23. Service tax will be reimburse to the contractor by the Engineer-in-charge on satisfying himself that the contractor has actually and genuinely has paid the tax for which he has to submit original receipt of payment of service tax to the concerned department.

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## GENERAL SPECIFICATIONS

- 1 The work, in general, shall be executed as per the description of item, specifications attached, CPWD specifications 2009 Vol I & II with correction slips up to the date of receipt of tender and MORTH Specifications for Roads & Bridge works (Fifth Revision) –2001.
- 2 All the works unless otherwise specified hereinafter or permitted by Engineer-in-Charge shall be done in accordance with the latest editions of IRC codes as on the date of receipt of tenders or any other specified code. In addition, relevant IS Codes.(latest revision), CPWD Specifications 2009, MORTH Specifications for Roads and Bridge Works (Fourth Revision, 2001), with upto date correction slips shall also be applicable.

Any additional standard specifications or criteria published by the IRC/BIS or other foreign standard and in practice on the date of receipt of tenders shall also be taken into account. In the absence of any definite provisions on any particular issue in the above mentioned specifications, the design and construction shall be in conformity with the Sound Engineering Practice and in all such matters the decision of the Engineer-in-Charge shall be final and binding on the contractor and nothing shall be paid extra.

In case of any discrepancy or contradiction amongst the specified standards the following order of preferences shall generally prevail.

- i. Nomenclature of items etc given in Schedule of Quantities.
- ii. Particular Specifications, and additional conditions if any.
- iii. Drawings attached with the tender.
- iv. CPWD specifications, 2009, Vol I & II with up-to-date correction slips.
- v. All relevant IS Codes with the latest revisions.
- vi. Foreign standards, such as BS, AASHTO, CEB-FIP etc. and accepted international practice as approved by Engineer-in-Charge.
- vii. Sound Engineering Practice as per directions of the Engineer- in-Charge.

If there are varying or conflicting provisions made in any document forming part of the contract, the Engineer-in-Charge shall be the deciding authority with regard to the Intention / interpretation of the document and his decision shall be binding without any reservations.

3. The contractor shall ensure quality control measures on different aspects of construction materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of the work. The quality assurance programme should include method statement for various items of work to be executed alongwith check lists to enforce quality control.

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- 3.1 The contractor shall submit brand/make of various materials to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
- 3.2 The contractor shall submit shop drawings of staging and formwork arrangement etc. for the approval of Engineer-in-Charge. The contractor shall also submit bar bending schedule for approval of Engineer-in-Charge before execution.
- 3.3 The contractor shall get the water tested with regard to its suitability for use in the works and get written approval from the Engineer-in-Charge before he proceeds with the use of same for execution of works. If the tube well water is not suitable, the contractor shall arrange Municipal water at his own cost and nothing extra shall be paid to the contractor on this account. Water charges shall not be recovered in case arrangement of water is made at his own by the contractor.
- 3.4 Wherever any reference to any Indian Standard Specifications and other relevant codes occur in the documents relating to this contract same shall be inclusive of all amendments issued thereto or revision thereof, if any, upto date of receipt of the tender.
- 3.5 All the drawings shall at all times be properly correlated by the contractor before executing the work and no claim what so ever shall be entertained for failing to do so. In case of any discrepancy in the specifications, schedule of quantity and drawings, the decision of the Engineer-in-charge shall be final, conclusive and binding on the contractor.
- 3.6 Rates for the items are inclusive of all labour, materials, T&P, ladders, jhoolas, scaffolding, incidental charges, contractors profit and overheads etc. unless, otherwise, specified. The contractors shall quote the rates accordingly).
- ✓ 4.0 The necessary tests shall be got conducted in the lab of IIT Delhi/ Delhi Technical University and other Government Engineering Colleges having facility of testing or any other lab as approved by Engineer-In-Charge. The sample of carrying out all or part of the tests shall be collected by the Engineer-in-charge or on behalf of officer-in-charge of the quality assurance wing of Central Design organization, CPWD and his authorized subordinate or by the officer-in-charge of CPWD Lab, his authorized sub-ordinate for carrying out the independent quality assessment / control test and the results will be binding on the contractor. If the test result confirmed, the testing charges, if any, shall be borne by the department. The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding of the contractor.

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## PARTICULAR SPECIFICATION

### (A) CIVIL & SANITARY INSTALLATION / WATER SUPPLY / DRAINAGE WORK

#### 1. EARTH WORK:-

The work shall be done in accordance with CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

#### 1. CONCRETE WORK:-

The work shall be done in accordance with CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

#### 2. R.C.C. WORK (DESIGN MIX CONCRETE):-

3.1 The RCC work shall be done with Design Mix Concrete. Wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. The Design Mix Concrete will be designated based on the principles given in IS:456, 10262 & SP 23. The condition and specifications stated herein shall have precedence overall conditions and specifications stated in relevant I.S codes/CPWD specifications. The concrete mix shall be designed for specified target mean compressive strength in order to ensure that the work test results do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The mix shall be designed with quantities of admixture / plasticizer proposed to achieve required workability & strength. The specifications mentioned here in below shall be followed for Design Mix Concrete.

3.2 The sources of coarse aggregate, fine aggregate & water to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specification & their availability before getting the same approved by the Engineer-In-Charge.

3.3 Coarse Aggregate:- As per CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

3.4 Fine Aggregate:- As per CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

3.5 **Water:-** It shall conform to requirements laid down in IS:456-2000 / CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

3.6 **Cement:-** OPC of grade 43 shall be used for design mix concrete and shall conform to IS-8112. However, if higher grade of cement is used by the contractor nothing extra shall be paid on this account.

#### 3.7 **Admixtures / Plasticizers:-**

The admixture shall conform to IS : 9103, wherein required, the admixture of approved quality and approved make only shall be used to attain the required workability. Nothing extra shall be paid for use of admixtures.

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3.8 **Grade of Concrete:-** The compressive strength of various grades of concrete shall be given as below:-

GRADE DESIGNATION (N/mm <sup>2</sup> )	COMPRESSIVE STRENGTH ON 15 cm CUBES min. 7 DAYS 28 DAYS	SPECIFIED CHARACTERISTIC COMPRESSIVE STRENGTH AT (N/mm <sup>2</sup> )	MAXIMUM WATER CEMENT RATIO	
(i) M-20	As Per Design.	20	0.50	
(ii) M-25	As Per Design.	25	0.50	
(iii) M-30	As Per Design.	30	0.45	
(iv) M-35	As per Design.	35	0.45	

Water cement ratio and slump shall be as per IS : 456-2000

**NOTE:-**

- i) In the designation of a Concrete mix letter M refers to the mix and the number of the specified characteristic compressive strength of 15 cm - Cube at 28 days expressed in N/mm<sup>2</sup>.
  - ii) It is specifically highlighted that in addition to the above requirements, the maximum cement content for any grade shall be limited to 450 kg. / cubic meter.
  - iii) The maximum cement content for design mix concrete shall be maintained as per the quantity mentioned above. In case where the quantity of cement required as per Design Mix is lower than the quantity specified in the respective item in the "schedule of quantity", necessary deduction for less quantity of cement used shall be made from the contractor.
- 3.9 The contractor shall submit the report on design mix from approved laboratories for approval of Engineer-in-charge within 06 (Six) Months from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of white portland cement and the likely use of admixtures in concrete with ordinary portland/white portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and / or admixtures also, for which nothing extra shall be payable.
- 3.10 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-charge.
- 3.11 **Trial Batches**
- 3.11.1 The designed mix proportion shall be checked for target mean compressive strength by means of trial batches.

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- 3.11.2 The quantities of materials for each trial mix shall be sufficient for atleast six specimens (cubes) and the concrete required for carrying out workability tests.
- 3.11.3 The workability of trial mix No. 1 shall be measured and mix shall be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.
- 3.11.4 With the modified water content, the mix proportions shall be recalculated by keeping with water cement ratio unchanged. The mix proportions, as modified, shall form the Trial Mix No. 2 and tested for the specified strength and workability.
- 3.11.5 In addition, trial mix No. 3 and 4 shall be designed by keeping water contents same as that determined for trial mix 2 but varying the water cement ratio  $\pm 10$  percent of the specified value and tested for their design characteristics.
- 3.12 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix wherever required and directed by Engineer-in-Charge.

### 3.13 APPROVAL OF DESIGN MIX:-

The mix design for a specified grade of concrete shall be done for a target mean compressive strength  $T_{ck} = F_{ck} + 1.65s$

Where  $F_{ck}$  = Characteristic compressive strength at 28 days.  
 $s$  = Standard deviation which depends on degree of quality control.

The degree of quality control for this work is "good" for which the standard deviation (s) obtained for different grades of concrete shall be as follows:-

GRADE OF CONCRETE	STANDARD DEVIATION(S)
M-15	3.5
M-20	4.0
M-25	4.0
M-30	5.0
M-35	5.0

Minimum three sets of separate preliminary test shall be carried out for each trial batch of concrete mix. Each test shall comprise six specimens and only one test set of six specimens shall be made on any particular day. Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days. While the design mix shall be approved only on the basis of test strength of 28 days. The design mix shall be considered satisfactory and approval if at least three preliminary test- sets individually satisfy the following strength and workability criteria.

- The average strength of each test sets is not less than the specified target mean compressive strength(TCK).
- The strength of any specimen cube is not less than 0.85 Tck.
- The concrete mix is required degree of workability and acceptance concrete finish.

- 3.14 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor.

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### 3.15 BATCHING & LAYING:-

- a) All concreting shall be done using automatic concrete batching plant with automatic admixture dispenser which shall be installed by the contractor at site, calibrated & tested. For the admixtures if used within the parametre as specified in the Tender Document nothing extra shall be payable. The batching plant shall conform to IS: 4925. It shall have the facilities of data print-outs, presetting the quantity to be weighed with automatic cut-off when the same is achieved. Location to install batching plant at site shall be obtained by the contractor from Engineer-In-Charge.
- b) In case of non-availability of location to install Batch type hot mix plant at site, Ready Mix Concrete (RMC) may be used. The concrete to site shall be transported by transit mixtures. All the precautions shall be taken during the transportation and handling of concrete to achieve the desired strength, durability, etc. as envisaged in the mix design. Contractor has to get the approval from Engineer-In-Charge regarding source of ready mix concrete. Nothing extra shall be paid for ready mix concrete instead of batched mixed concrete.
- c) All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy shall be checked at least once a month.
- d) Only single sized good quality stone aggregate shall be brought to site of work from the approved source. The grading of the stone aggregate shall be controlled by blending the aggregate of different sizes in the required proportions at site of work.  
The aggregate of different sizes shall be stock piled separately, preferably a day before use.

The grading of different coarse and fine aggregates shall be checked as frequently as possible and as directed by the Engineer-in-Charge to ensure that the specified grading and quality of aggregate is maintained.

- e) *It is important to maintain the water cement ratio constant at its specified of approved value by making adjustment for the moisture contents of both fine and coarse aggregates.*

The moisture contents in the aggregate shall be determined as frequently as possible in keeping with the weather conditions and as per the provisions of IS :2386 (Part-III) 1963.

- f) The concrete shall be placed in position using tower crane or concrete pumps of adequate capacity. Use of mechanical hoists shall not be permitted for lifting of concrete to various levels. For pumping of concrete the design of concrete mix shall be done separately. Nothing extra for laying concrete using concrete pumps or for extra concrete mix design shall be paid.

- 3.16 All other operations in concreting work like mixing, slump, laying, placing of concrete, compaction, curing etc. not mentioned in this particular specifications for Design Mix of Concrete shall be as per CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

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3.17 **WORK STRENGTH TEST:-**

**TEST SPECIMEN:-**

Work strength test shall be conducted in accordance with IS:516 on random sampling. Each test shall be conducted on six specimen, three of which shall be tested at 7 days and remaining three at 28 days.

**TEST RESULTS OF SAMPLES:-**

The test results of the sample shall be the average of the strength of three specimen. The individual variation shall not be more than  $\pm 15\%$  percent of the average. If variation is more, the test results shall be treated as invalid. 90% of the total tests shall be done at the laboratory established at site by the contractor and remaining 10% in the laboratory of Central Designs Organization, CPWD or in any other laboratory as directed by the Engineer-in-Charge.

**LOT SIZE:-**

The minimum frequency of sampling of concrete of each grade shall be as per CPWD Specification 2009 Vol. I & II with upto correction slip.

3.18 **STANDARD OF ACCEPTANCE:-**

- i) In case the test results of all the samples are above the characteristic compressive strength, the concrete shall be accepted.
- ii) In case the test result of one or more samples fails to meet the requirement (i) above, it shall be accepted if both the following conditions are met:-
  - a) Any individual test result is not less than  $(F_{ck} - 4) \text{ N/mm}^2$ .
  - b) The mean of test results from any group of four consecutive samples is more than  $(F_{ck} + 4) \text{ N/mm}^2$ .
- iii) Concrete of each grade shall be assessed separately.
- iv) Concrete is liable to be rejected, if it is porous or honeycombed, its placing has been interrupted without providing a proper construction joint, the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met.

3.19 M.S. centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-charge.

3.20 Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the form work is having a mean radius exceeding 6m in plan.

3.21 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of R.C.C. shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.

3.22A As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20mm as required lower than general floors shuttering should be adjusted accordingly. Nothing extra is payable on this account.

3.23 **Measurement** - As per CPWD Specifications - CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

3.24 **Tolerances** - As per CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

3.25 **Rates:-**

3.25.1 The rate includes the cost of materials/ plasticizers / admixtures, labour and T&P, including mixing, placing, transportation involved in all the operations described above except for the cost of centering, shuttering & reinforcement which will be paid for separately.

3.25.2 In case of actual average compressive strength being less than specified strength which shall be governed by para "Standard of Acceptance" as above the rate payable shall be worked out accordingly as per CPWD Specifications - 2009 - Vol.I & II with upto date correction slips.

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# PROFORMA FOR THE CEMENT REGISTER

PARTICULARS OF RECEIPT			PARTICULARS OF ISSUE			REMARK							
Date of receipt	Quantity received	Progressive Total	Date of issue	Quantity issued	Item of work for	Quantity returned at the end of the day	Total issued	Daily Balance in hand	Contractors initial	J.E's initials	Asstt. Engg. initials	A.E. E.E initials	Original check
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### SPECIAL CONDITIONS FOR CEMENT & STEEL

1. The contractor shall, at his own expense procure and provide all materials including cement and steel required for the work.
2. The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
3. All materials brought by the contractor for use in the work shall be got checked from the Engineer-In-Charge or his authorized representative of the work on receipt of the same at site before use.
4. The contractor shall also employ necessary watch and ward establishment for the safe custody of materials at his own cost.
5. Contractor has to produce manufacturers test certificate for each lot of cement & steel procured at site.

#### 6. CONDITIONS FOR CEMENT:-

- 6.1 The contractor shall procure 43 grade (conforming to IS:8112 ) ordinary portland cement, as required in the work from reputed manufacturers of cement having a production capacity of one million tonnes or more such as ACC, ULTRA-TECH, Birla (Vikram), Shree Cement, GujratAmbuja, J.K., Jaypee Cement etc. i.e. agencies approved by Ministry of Industry, Govt. of India and holding license to use ISI certification mark for their product. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially, Supply of cement as approved by Ministry of Industry, Government of India and holding licence to use ISI certification mark for their product whose name shall be got approved from Engineer-In-Charge. Supply of cement shall be taken in 50 kg. bags bearing manufacturer's name and ISI marking, alongwith manufacturers test certificate for each lot. Samples of cement arranged by the contractor shall be taken by the Engineer-In-Charge and got tested in accordance with provisions of relevant BIS Codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-In-charge to do so.
- 6.2 The cement shall be brought at site in bulk supply of approximately 20 tonnes or as decided by the Engineer-In-Charge.
- 6.3 The cement go-down of the capacity to store a minimum of 400 bags of cement or as decided by the Engineer incharge shall be constructed by the contractor at site for which no extra payment shall be made. Double lock provision shall be made to the door of the cement go-down. The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the key of the other lock shall remain with the Contractor. The contractor shall be responsible for the watch and ward

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and safety of the cement go-down. The contractor shall facilitate the inspection of the cement go-down by the Engineer-in-charge at any time.

- 6.4 The cement shall be got tested by Engineer-in-charge and shall be used on work only, after test result have been received. The contractor shall supply free of charge the cement required for testing. The cost of tests shall be borne by the contractor/ Department in the manner indicated below :-
- (a) By the contractor, if the results show that the cement does not conform to relevant BIS codes.
- (b) By the Department, if the results show that the cement conforms to relevant BIS codes.
- 6.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in Clause -10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause-42 of the contract and shall be governed by the conditions laid therein.
- 6.6 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorised variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in Clause - 42), the cost of quantity of cement not so used shall be recovered from the contractor @ Rs. 6300/- (Rupees Six Thousand Three Hundred Only) per metric tonne. Decision of the Engineer-In-Charge in regard to theoretical quantity of cement which should have been actually used as per the schedule and recovered at the rate specified, shall be final and binding on the contractor.
- For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantity of the cement which should have been actually used, shall be final and binding on the contractor.
- 6.7 Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.
- 6.8 Damaged cement shall be removed from site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do so within three days of the receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.
- 6.9 In case the contractor brings surplus quantity of cement the same shall be removed from the site after completion of work by the contractor at his own cost after approval of the Engineer-in-charge.
- 6.10 The cement in bags shall be stacked by the contractor in two godowns one for fresh arrival to be tested for quality and another already tested in use having weather proof roof and walls and on a proper floor consisting of two layers of dry bricks laid on well consolidated earth at a level at least 30cm above the ground level. These stacks shall be in rows of two bags deep and 10 bags high with a minimum of 60 cm. clear space all round. The bags should be placed horizontally continuous in each line as shown in the accompanying sketch given in CPWD Specification - 2009 Vol. I & II with

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upto date correction slips . The sketch is only for guidance. Actual size / shape of godowns shall be as per site requirement and nothing extra shall be paid on this account.

6.11 Cement register for the cement shall be maintained at site. The account of daily receipts and issue of cement shall be maintained in the register by the authorized representative of the Engineer-in-charge and signed daily by contractor or his authorized agent.

6.12 Cement which is not used within 90 days from its date of manufacture shall be tested at laboratory approved by the Engineer-in-charge until the results of such tests are found satisfactory, it shall not be used in any work.

## 7. CONDITIONS FOR STEEL:-

7.1 The CPWD/Contractor shall/procure IS marked TMT bars of various grades from

- The Steel Manufacturers such as Shayam Steel, SAIL, TATA steel ltd. RINL, Jindal Steel & Power Ltd, and JSW steel Ltd, or their authorized dealers having valid BIS license for IS: 1786-2008 (Amendment-1 November 2012)
- The Steel manufacturers or their authorized dealers (as per following selection criteria) having valid BIS license for IS:1786-2008 (Amendment-1 November 2012).

The quality of steel should be as per OM No. DG/CPWD Works Manual/366 dated 14.03.2018. The contractor shall have to obtain and furnish tests certificates to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to BIS codes; the same shall stand rejected and shall be removed from the site of work by the contractor at his own cost within a week's time from written orders from the Engineer-in Charge to do so.

7.2 The steel reinforcement shall be brought in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge alongwith manufacturer test certificate for each lot.

7.3 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

7.2 For checking normal mass, tensile strength, bend test, re- bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below ::

SIZE OF BAR FOR	CONSIGNMENT BELOW 100 TONNES	FOR CONSIGNMENT OVER 100 TONNES
Under 10mm dia bars	One set of sample for each 25 tonnes or part thereof.	One set of sample for each 40 tonnes or part thereof.
10mm upto 16mm dia bars	One set of sample for each 35 tonnes or part thereof.	One set of sample for each 45 tonnes or part thereof.
Over 16mm dia bars	One set of sample for each 45 tonnes or part thereof.	One set of sample for each 60 tonnes or part thereof.

7.5 The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of testing. The cost of tests shall be borne by the contractor.

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- 7.6 The Actual issue and consumption of steel on work shall be regulated and proper account maintained as provided in Clauses 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
- 7.7 The actual issue of steel shall be actual weight of total quantity of Steel received at the site less actual weight of balance quantity of steel lying unutilized at the work site.
- 7.8 Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge.
- 7.9 In cases the contractor bring surplus quantity of steel the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in- Charge.
- 7.10 The mild steel and medium tensile steel bars to be used shall conform to latest version of IS 432 and cold twisted bars and TMT bars shall conform to the latest version of IS : 1786.
- 7.11 i) Reinforcement including authorized spacer bars and lappings shall be measured in length of different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
- ii) The standard sectional weights referred to as in Table IV in para 5.3.3 in CPWD Specifications 2009 Vol. I to II with upto date correction slips for works will be considered for conversion of length of various sizes of M.S. Bars, Tor Steel Bars and T.M.T.bars into Standard Weight.
- iii) Records of actual Sectional weights shall also be kept dia-wise and lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight.
- iv) a) If the Derived Weight as in sub-para (iii) above is lesser than the Standard Weight as in Sub-para (ii) above then the Derived Actual Weight shall be taken for payment.
- b) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as worked out in sub-para (ii) above shall be taken for payment. In such

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case nothing extra shall be paid for the difference between the Derived Actual Weight and the standard Weight.

- 7.12 The contractor shall be permitted to use TMT reinforcement bars procured from secondary producer subject to the rates of providing and laying TMT reinforcement bars as quoted by the contractor in the tender shall be reduced by Rs. 6.40 per kg (which includes contractor's profit & over heads as applicable)

## 8. SPECIFICATIONS OF THERMO-MECHANICALLY TREATED BARS (TMT BARS):-

- 8.1 Thermo-Mechanically Treated Bars (TMT Bars) of Grade Fe-500D or more, conforming to IS-1786 Specifications, produced by main producers or secondary producers as approved by the Ministry of Steel having valid BIS license from M/S Thermax or Tempcore to produce TMT Bars shall be used in all R.C.C. works.

### 9. STONE / MARBLE WORK:-

#### General:-

- 9.1 The execution of stones work shall be in general as per CPWD Specifications - 2009 - Vol. I & Vol. II with upto date correction slips.  
9.2 All holes, rebates, recesses etc. for providing fixing and inserts shall be predrilled and precut and worked using precision machine tools. Nothing extra on this account shall be payable.

#### SAMPLES FOR STONE WORK:-

- 9.3 Samples of each item of stone work either individually or in combination shall be prepared for approval of Engineer-in-Charge before commencement of work.  
9.4 Sequence of execution for cladding work shall be suggested by the contractor for approval of Engineer-in-Charge.

### 10.0 SCAFFOLDING:-

The contractor shall provide steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding.

### 11.0 WOOD WORK:-

- 11.1 The wood work in general shall be carried out as per CPWD Specifications - 2009 Vol. I & II with upto date correction slips.  
11.2 All fittings and fixtures shall be got approved from the Engineer-in Charge before procurement well in advance and the approved samples shall be kept at site till completion of the work.  
11.3 Glazing for toilets shall be of translucent type.  
11.4 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.

### 12.0 STEEL WORK:-

Work shall be carried out as per CPWD Specifications - 2009 - Vol. I & Vol. II with upto date correction slips.

### 13.0 FLOORING:

- i) All work in general shall be carried out as per CPWD Specifications.  
Only machine cut stone slabs of marble, granite, Kota, Jaisalmer etc. shall be used for flooring work.  
ii) Wherever flooring is to be done in patterns of tiles / stone, the contractor shall get samples of pattern laid and approved by the Engineer-in-charge before final laying of such flooring for which nothing extra shall be paid.  
iii) Different stones/tiles used in pattern flooring shall be measured separately as defined in the nomenclature of the item and nothing extra for laying pattern flooring shall be paid over and

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- above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.
- iv) Nothing extra shall be payable for using combination of marble, granite, Kota, sand stone slabs & ceramic tiles in the required pattern at various locations.
  - v) Nothing extra will be paid for the additional thickness of bed mortar that will be required to achieve uniform finished surfaces on account of difference in specified thickness of marble, granite, Kota stone, sand stone & ceramic tiles etc.
  - vi) Flooring in toilets, verandah, kitchen, courtyard etc. shall be laid to the required slope/gradient as per the directions of the Engineer-in-charge.
  - vii) Samples of the materials shall be got approved from the Engineer-in-charge well in time and kept in safe custody at the site till completion of the project.
  - viii) The pattern, spacing and locations of joints shall be as per drawings and directions of the Engineer-in-charge. **Nothing extra on this account shall be payable.**
  - ix) Projections shall be rounded at the edges or half rounded as per drawings and directions of Engineer-in-charge for which payment shall be made separately, if necessary.
  - x) The samples of flooring, dado & skirting as per approved pattern shall be prepared in sample room and got approved from the Engineer-in-charge before execution of work.
  - xi) Kota/marble stone used over the treads/risers of the stair case shall be as per pattern approved by Engineer-in-charge. Nothing extra on this account shall be payable.
  - xii) Whenever the Kota stone/marble stone flooring are to be provided in treads of staircase. It should be provided in one piece with pre finished nosing and pre polished exposed surfaces and edges. Kota stone flooring or granite stone flooring to be provided on top of platform shall be pre polished with pre finished nosing. It should be provided in not more than 2 (two) pieces on any side of platform.
  - xiii) Whenever Kota stone 25 mm thick is used in skirting. It should be executed by making shallow chase in wall to given flush surface.


### 13.1 Ceramic Tiles/Vitrified Tiles Work/ Kota stone flooring

- i) Work shall be carried out as per CPWD Specifications- 2009 Vol I & II with up to date correction slips and as per manufactures specifications.
- ii) The tile shall be conforming to IS-15622, IS- 15477 & as per approve list.
- iii) Test shall be conducted to satisfy the quality of material for every 2000 tiles or part thereof.
- iv) Rates shall be inclusive of all operations including labour, material, T&P, scaffolding etc. complete. Nothing extra shall be payable on any account.
- v) Size of ceramic tiles shall not be less than 300 mm x 450 mm. & as per nomenclature of the item.
- vi) One piece Kota stone for treads / risers in staircase shall be used and nothing extra shall be paid on this account.

### 14.0 WATER PROOFING (in Basement with Kota Stone):

- i) The work in general shall be executed as per CPWD specifications.
- ii) The water proofing compound used in integral water proofing treatment shall satisfy all the requirements indicated in IS:2645 and shall be got tested before its use.
- iii) Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the Engineer-in-Charge in writing. Materials shall be kept under double lock and key and proper account of water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.
- iv) Contractor shall associate himself with anyone of the specialist firms mentioned in approved list of specialized agencies for the work relating to the Water Proofing Treatment. In case the contractor intends to get the water proofing work executed from an agency other than as specified in NIT. He shall apply to the Engineer-in-Charge in writing along with the credentials and relevant details including name of owner/company, its location, capacity technical establishment, past experience etc. Engineer-in-Charge shall give approval in writing and the work shall not be started without

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said written approval of the Engineer-in-Charge. The entire responsibility for the quality of this treatment and its efficiency shall however, rest with the main contractor only.

- v) The contractor shall ensure that the basement of the building shall be absolutely water tight and seepage/leak free. In case any seepage/leakage etc. is noticed the contractor shall make it water tight & seepage/leak proof at his own cost.

vi) **Construction Joints:**

The construction joints shall be provided only at locations shown in the structural drawings or as approved by Engineer-in-Charge. Reinforcement shall continue through construction joints.

The foreign matter and laitance shall be cleaned properly by compressed air before start of further work.

All construction joints in RCC raft, shall be injection grouted with cement slurry. Nothing extra shall be paid on this account.

**14.1 Water Proofing of terrace**

- i) **Brick Bat Terracing/ Water Proofing**

The water proofing compound used in integral water proofing treatment shall satisfy all the performance requirements indicated in IS :m 2645 and shall be got tested before its use. The compound shall be used @ 2% by weight of cement used or as recommended by the manufacturer.

- ii) Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approved of the Engineer-in-Charge in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.

- iii) The finished surface after water proofing treatment for roof slab shall have smooth slope.

- iv) Before commencement of treatment on roof surface, it shall be ensured that the outlet drain pipes/ spouts have been fixed and the spout opening have been eased and rounded off properly for easy flow of water.

**14.2 Water proofing of Sunken Portion Area**

Application of cementitious- organic chemical based coating as per manufacturers specifications of Kryton or equivalent applied on vertical and horizontal surface after laying of all pipes and smooth plugging of holes.

Concrete surface on which water proofing is desired shall be kept wet for 48 hrs. after cleaning of all dirt, oil grease, bitumen, laitance or other contaminants.

Surface water shall be removed prior to application of waterproofing, but surface shall remain wet during the application to enhance deep penetration & formation of crystals at greater depth to block voids.

The area be shall be protected from sun and rain for 48 hrs. and continuous flooding for 7 days.

Flooring shall be done for 72 hrs. to test the area for any leakage/ seepage etc. In case of failure, the process shall be repeated and tested again by the contractor at his own risk and cost.

Rates shall be inclusive of all operations including labour, material, T&P, scaffolding and testing etc. complete. Nothing extra shall be payable on any account.

**15.0 Guarantee Bond**

Five years guarantee bond in prescribed proforma attached at annexure-IV herewith shall be submitted by the contractor which shall also be signed by both the specialised agency and the contractor to meet their liability/ liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the building contractor.

(Ten percent) of the cost of water proofing work shall be retained as security deposit and the amount so withheld would be released after five years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

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However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer-in-Charge, if so decided by the Engineer-in-Charge. The security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

#### 16.0 FINISHING

16.1 The work shall be carried out as per CPWD Specifications- 2009 Vol.-I & Vol. II with upto date correction slips.

16.2 All painting material shall brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days of work. The material shall be kept under the joint custody of contractor and representative of the Engineer-in-Charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer-in-Charge.

#### 17.0 SPECIFICATIONS FOR ALUMINIUM DOOR, WINDOW, VENTILATOR WORKS ETC.

##### 17.1 Extent and intent

The work shall be carried out through an approved specialist contractor, who shall furnish all materials, labour, accessories, equipment, tool and plant and incidentals required for providing and installing anodised aluminum doors, windows, claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirement only. The supplying of additional fastenings, accessory features and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract.

##### 17.2 General

Aluminium doors, windows etc. shall be of sizes, section details as shown on the drawings. The details shown on the drawings indicate generally the sizes of the components parts and general standards. These may be varied slightly to suit the standard adopted by the manufacturer. Before proceeding with any manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of the Engineer-in-Charge and no work shall be performed until the approval of these drawings is obtained.

##### 17.3 Shop Drawings

The contractor shall submit the shop drawings of doors. Windows, louvers, cladding and other aluminum work, based on architectural drawings, to the Engineer-in-Charge for his approval. The drawings shall show full size sections of doors, windows etc. thickness of metal (i.e wall thickness), details of construction, sub frame/ rough ground profile, anchoring details, hardware as well as connection of windows, doors and other metal work to adjacent work. Samples of all joints and methods of fastening and joining shall be submitted to the Engineer-in-Charge for approval well in advance of commencing the work.

##### 17.4 Samples

Samples of doors, windows, louvers etc. shall be fabricated, assembled and submitted to the Engineer-in-Charge for his approval. They shall be of sizes types etc. as decided by Engineer-in-Charge. All samples shall be provided at the cost of the contractor.

##### 17.5 Sections

Minimum doors and windows shall be fabricated from extruded section of profile of detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-Charge. The aluminum extruded sections shall conform IS designation 63400-WP (HV9WP Old designation) with chemical composition and technical properties as per IS 733 and IS: 1285. The permissible dimensional tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operation and appearance of doors and windows.

##### 17.6 Fabrication

Doors, windows, etc. shall be fabricated to sizes as shown, at factory and shall be of section, sizes combinations and details as shown in the Architectural Drawings. All doors, windows etc. shall have mechanical joints. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joint and accessories such as cleats, brackets, etc. shall be of such materials as not to cause any bimetallic action. The fabrication of doors, windows, etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixtures as approved by the Engineer-in-Charge.

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**17.7 Powder Coating**

All aluminum sections shall be powder coated 50 micron to required color as specified in the item and as per direction of Engineer-in-Charge. Polythene tape protection shall be applied on the powder coated section before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The samples will be tested in the approved laboratory and cost of samples, cost of testing, shall be borne by the contractor.

**17.8 Protection of Finish**

All aluminum members shall be wrapped with approved self adhesive non- staining PVC tapes.

**17.9 Handling and stacking**

**17.9.1** Fabricated materials shall be stacking in an approved manner to protect the material against any damage during transportation. The loading and unloading shall be carried out with utmost care, on receipt of materials at site, they shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged piece/ parts. Materials found to be acceptable on inspections shall be repacked in crates and stored safely.

**17.9.2** *In the case of composite windows and doors, the different units are to be assembled first. The assembled composite units should be checked for line, level and plumb before final fixing is done. Units may be serial numbered and identified as how to be assembled in their final location of situation so warrants.*

**17.9.3** *Where aluminum comes into contact with masonry brickwork, concrete, planter or dissimilar metals, it shall be coated with approved insulation lacquer, paint or plastic tape to ensure that electro-chemical corrosion is avoided. Insulation material shall be trimmed off to a clean flush line on completion.*

**17.9.4** *The contractor shall be responsible for assembling composite, bedding and filling the groove with backup roads polysulphide sealant inside and outside, placing the doors, windows etc. in their respective opening. After the doors/ windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be fitted with approved polysulphide sealant densely packed and neatly finished.*

**17.9.5** *The contractor shall be responsible for doors, windows, etc. being set straight plumb, level and for their satisfactory operation after fixing is complete.*

**17.10 Installation**

**17.10.1** *Just prior to installation the doors, windows etc. shall be uncrated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position true to line and level using adequate number of expansion machine bolts, anchor fasteners of approved size and manufacturer and in an approved manner. The holes in concrete/ masonry members for housing anchor bolts shall be drilled with an electric drill.*

**17.10.2** *The doors, windows assembled as shown on drawings shall be placed in correct final position in this opening and marks made on concrete members at jambs, sills and heads against the holes provided in frames for anchoring. The frame shall then be removed from the opening and laid aside. Neat hole with parallel sides of appropriate size shall then be drilled in the concrete members with an electric drill at the marking to house the expansion bolts. The expansion bolts shall then be inserted in the holes, struck with a light hammer till the nuts are forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support through cadmium plated machine screws of required size threaded to expansion bolts. The frame shall be set in the opening by using wooden wedges at supported and bar plumbed in position. The wedges shall invariably be placed at meeting points of glazing bars and frames.*

**17.11 Neoprene Gaskets**

*The contractor shall provide and install Neoprene gaskets of approved size and profile at all locations as shown and as called for to render the doors, windows etc. absolutely air tight and weather tight. The contractors shall produce samples of the gaskets for approval and procure after approval only.*

**17.12 Fittings**

*Hinges, stays, handles, tower bolts, locks and other fittings shall be of excellent quality and manufacturers shall be approved by the Engineer-in-Charge.*

**17.13 Manufacturer's Attendance**

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### 17.14 Mastic Cement

### 17.15 Sealant

*Colour of the sealant shall be approved by the Engineer-in-Charge.*

### 17.15.1 Glazing

Maintain a minimum glazing bite, edge clearance and surface clearance depending on the glass as recommended by the glass manufacturer.

### 17.15.2 Sealant and Gasket Application


*Tensile or shear stress in structural silicone sealant joint shall not exceed 1.4 kg./sqm.*

### 17.16 Protection & Cleaning

### 17.17 Details of Tests

17.17.2 The minimum number of tests for powder coating and corrosion resistance shall be as given below:

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17.17.3 The samples of major member of each unit of doors/ windows shall be selected at random by Engineer-in-Charge as such that all the aluminum section be got tested.

17.17.4 The cost of samples, carriage or the samples and testing charges, if any, shall be borne by the contractor.

**17.18 Acceptance Criteria**

The aluminum sections shall conform to the provisions of the relevant item of BOQ. For payment purposes only actual weight of sections shall be taken into account. If, however, the sectional weight of any aluminum section is higher than the permissible variation then the weight payable shall be restricted to the weight of the section including permissible variation.

Measurement: Payment by weight shall be made for aluminum sections including beading only and all fixing angles, fittings/ features such as handles and hinges etc. shall not be included in the weight to be paid.

**17.18.1 Guarantee Bond:** - All aluminum work shall carry two years guarantee after completion of the work against water leakage, unsound material and workmanship and defective anodising as per guarantee bond at annexure-VI.

Two years guarantee in prescribed proforma attached at Annexure-VI must be given by the specialised firm, which shall be counter signed by the contractor, in token of his overall responsibility in addition **10% (Ten percent)** of the cost of these items would be retained as guarantee to which the performance of the work done. The cost guarantee against this item of work shall be in addition to the security deposit mentioned elsewhere in the contract form. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days, and if not attended to the same will be got done from another agency at the risk and cost of the contractor. However, this security deposit can be released in full, if bank guarantee of equivalent amount for two years is produced and deposited with the department.

17.19 Work shall be carried out as per CPWD Specifications- 2009 Vol.- I & Vol.-II with upto date correction slips.

17.20 Rates: The rate of the item shall include the cost of materials, T&P, Double Scaffolding and labour required in all the above operations.

**17.00 SANITARY INSTALLATIONS/ WATER SUPPLY/ DRAINAGE:**

- i) For the work of water supply and sanitary installation, the contractor shall engage the approved licensed plumbers and submit the name of proposed plumbing agencies with their credentials for approval of the Engineer-in-charge.
- ii) The entire responsibility for the quality of work will however rest with the building contractor only and he shall submit a guarantee bond as per proforma enclosed.
- iii) The tender rates shall include the cost of cutting holes in walls, floors, RCC slabs etc. wherever required and making good the same for which nothing extra shall be paid.
- iv) The Centrifugally cast (spun) iron S&S pipe wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.
- v) The contractor shall give a satisfactory performance test of the entire installation(s) before the work is finally accepted and nothing extra shall be payable to the contractor on this account.
- vi) P or S and floor traps in WCs shall be of deep seal type of approved make and shall have a minimum water seal 75mm. Floor traps shall have a minimum water seal of 50mm.
- vii) The contractor shall be responsible for all the protection of sanitary water supply fittings and fixtures against pilferage and breakage during the period of installation until the completion/ handing over of the building.
- viii) The pig lead to be used in jointing as per CPWD specifications Vol. I to II - 2009 with upto date correction slips. A variation of 5 % is allowed on higher side. **However, in case of variation on lower side, the work shall be dismantled and redone by the contractor at his own cost.**
- ix) The contractor shall submit completion plans for water supply, internal sanitary installations and building drainage work within 30 (Thirty) days of the date of completion. These plans are

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to be submitted on drawings prepared preferably through computers (1 original copy + 3 photocopies) on suitable scales to show the general arrangement and desired details at his cost. **Nothing extra on this account shall be payable.** In case the contractor fails to submit the completion plans as aforesaid, **security deposit shall not be released.**

x) **Guarantee Bond:**

For the entire work of Sanitary Installation, Water Supply & drainage, **Five years** guarantee bond in the prescribed proforma (Annexure-V) shall be executed by the contractor to meet his liabilities under the guarantee bond. **Five percent** of the cost of the work done under respective sub-head of the 'Schedule of Qualities' shall be retained as performance security and the amount so withheld would be released after five years from the date of completion of the entire work under the agreement subject to the satisfactory performance of sanitary installations and water supply system. If defects are noticed during the guarantee period, the same shall be rectified by the contractor within seven days of receipt of intimation of such defects in the work, failing which, the same will be got done at the risk and cost of the contractor. In case the rectification is got done at the risk and cost of the contractor, the entire amount of performance security should stand forfeited and shall be absolutely at the disposal of the Government.

- xi) The performance security deducted may be released in full if bank guarantee of equivalent amount for five years in acceptable form is deposited in favour of Engineer-in-charge.
- xii) The performance security shall be in addition to the security deposit, performance guarantee & performance security mentioned elsewhere in the document.
- xiii) Unless otherwise specified nothing extra whatsoever shall be paid for executing the work as per aforesaid particular specifications.

**18. DEWATERING:**

- Sub-soil water table at work site is reported to be about approx 5.0 metre below general ground level. The water level may rise during rainy season.
- Dewatering shall be carried out by suitable means with adequate stand-by arrangements and the disposal of water shall be done as per the direction of the Engineer-in-charge.
- The subsoil water from dewatering may be required to be connected to the raw water grid in the area for use in horticultural purpose, for which no extra payment will be made.
- Sub-soil water level shall be maintained at least 50cm below the P.C.C level during laying of P.C.C water proofing treatment, laying of basement raft and beams including filling of earth/sand under the basement floor. The water table shall not be allowed to rise above base of raft level until completion of outer retaining wall including water proofing of vertical surface of walls and back filling along the walls up to ground level and until the structure attains such height to counter balance the uplift pressure. The Rate for items of cement concrete, reinforcement cement concrete, brick work, steel work, finishing work, water proofing & soil anchors etc. are inclusive of pumping out or bailing out water and to maintain sub-soil water table at lower level during execution as per specifications and structural drawings. Nothing extra is payable for execution of these items under water.
- The rates quoted by the contractor shall be inclusive of working in or under water conditions and including pumping or bailing out water encountered from any source such as rains, floods, leakage from sewer and water mains, sub soil water table being high or for reasons of stability of structure or any other cause whatsoever. The extent and decision of pumping or bailing out of water shall be as per requirements of site and stability of structure and decision of Engineer-in-charge in this regard shall be final and binding on the contractor. Nothing extra shall be payable on this account.

**19. TEMPORARY EARTH RETAINING STRUCTURE:**

- The space for movement of heavy construction machineries or the space for open earth excavation by benching, in steps or in slope may not be available. Temporary earth retaining structures like diaphragm wall, Steel sheet pile / soldier pile etc. with strutting or soil / rock anchors shall be required for the safety of existing buildings, roads, other structures and trees before taking up deep basement excavation work for the construction of basements.
- The information and details given herein, in the architectural, structural drawings, preliminary soil investigation report and elsewhere in the tender documents is only indicative and for general

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- information and guidance only. The Contractor and his associate, structural Design Consultant shall inspect the site of work and get familiar with the actual site conditions.
- iii. The department shall not be responsible if soil is found to be of different character and properties during actual execution of work or testing of soil. The Department shall not be responsible for the inaccuracy thereof or any interpretation or conclusion drawn from them by the contractor.
  - iv. The contractor shall carryout detailed soil investigation at his own cost.
  - v. The detailed analysis, design, drawing of temporary earth retaining structure shall be obtained from reputed competent Structural Engineer and shall be submitted along with detailed calculation sheets with references of relevant BIS codes, manual etc. within 30 days from the date of issue of acceptance letter by the Engineer-in-charge. The design shall be based on the actual soil properties/ characteristics and shall be able to withstand the surcharge of existing buildings, excavated earth, dynamic loads of vehicular movement and vibrations caused by construction machinery and equipment. The strutting, or the anchors, and the waler beam etc. shall be as per the structural design and analysis. The Contractor has to get the design proof checked from designated institute of reputed like IIT Delhi/ Roorkee. The contractor shall modify the design and drawings and resubmit the same, if required without any extra cost / claim. However, the contractor shall be solely responsible for the design, safety of men, materials and stability of existing & constructed structure.
  - vi. The Analysis, Design & Structural Drawing of temporary earth retaining structure shall specify details like the spacing, type, size, unit weight, material, elastic section modulus of members, depth of embedment, Specification for wooden lagging, Waler beams and anchors, construction methodology etc.
  - vii. The expenses on design and proof checking, structural drawings of temporary earth retaining structure, soil investigation and geo technical survey shall be borne by the Contractor. The quoted rates shall include all the above expenses and no claim for cost/ expenses shall be entertained by the department.
  - viii. If required by the Engineer-in-Charge, contractor shall provide basic equipment/devices for measurements of deformations / settlements to measure ground water table, Settlement gauge etc. to check settlement of adjoining buildings. The equipment will be installed as per direction of Engineer-in-charge. Calibration and measurements of all equipments shall be performed by the contractor and shall be checked by independent agency if desired by the Engineer -in-Charge. Results from each measurement shall be recorded & submitted to Engineer-in-charge expeditiously.
  - ix. The work of providing temporary earth retaining structure as per approved design and drawings shall be carried out by the contractor either himself if he has the required experience of executed such works or through experienced associated agency having satisfactory completed of work (s) of Providing Steel Sheet Piles or Soldier Piles/H-Beams and or Diaphragm Wall etc. as earth retaining structure.
  - x. The materials for removable temporary earth retaining structure/ shoring / strutting etc. shall be the property of contractor and after successful completion of raft & retaining wall the same shall be removed from the site after use as per direction of Engineer-in-charge.
  - xi. Sheet piles/ Soldier piles and appurtenant materials shall be tested and certified to meet the specified chemical, mechanical and sectional properties requirement prior to delivery to site, as per relevant IS code.
  - xii. Before execution of work, the contractor shall submit the construction procedure/ Methodology and Specifications of Temporary Earth Retaining Structure from the structural consultant viz IIT/CBRI/NCBM and shall get approved from Engineer in Charge. The work of earth retaining structure shall be carried out strictly in accordance with the sequence, specifications and procedure given in approved structural design & drawings and as per direction of Engineer in Charge.
  - xiii. The Contractor shall submit the layout plan showing alignment arrangement of proposed temporary earth retaining structure clearly indicating the clear distance from the existing buildings /trees /roads and the proposed basement along with design and drawing showing complete details.

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- xiv. The rate quoted by the agency shall be inclusive of mobilization to site all necessary machineries, equipment, handling, storing, installation, cutting holes, splicing, driving, re-driving, bailing out water, pulling out and removal of the temporary earth retaining structure / strutting, instrumentations, men, materials, proprietary, levy, taxes etc., other incidentals for execution of work, with all safety measure as required for the execution of construction work for safety of surrounding existing buildings structures, parked / moving vehicles, equipment etc. as per direction of Engineer-in-charge.
- xv. The safety of the adjacent existing buildings is to be ensured so that no settlement or any damage due to settlement, land slide etc. because of deep basement excavation work is caused. For the safety, the Contractor shall install required apparatus / equipments for close monitoring any settlement or crack development, damages in the nearby buildings at his own cost. The contractor shall provide all necessary equipment/gauges for measurements of deformation/settlement in the adjacent buildings as directed by Engineer-in-charge. Monitoring instruments are to be maintained in good working conditions throughout the construction period is responsibility of contractor. Daily reading of instruments shall be recorded and got checked by the authorized representative of Engineer-in-charge. Checking operations (at least once in a week) shall be done by an experienced independent agency appointed by contractor with approval of Engineer-in-charge. All expenditure incurred on this independent agency shall be borne by the contractor. The Contractor shall be held liable for all damages on any account including defective installation, execution and removal of earth retaining structure.
- xvi. The non-submission of the analysis, design & drawings of Temporary Earth Retaining Structure within 30 days from the date of start or failure to resubmit within 7 days if required by the Engineer-in-Charge shall amount to non performance on the part of contractor/ Agency. The Engineer-in-charge shall be at liberty to take action to forfeit the Earnest money and the performance guarantee and shall be at disposal of Government of India.
- xvii. **Measurement:** For the payment of temporary earth retaining structure, the depth of exposed excavated vertical earth face and the length/width in straight horizontal length correct to a centimeter shall be measured. The area shall be worked out in sqm nearest to two decimal. The temporary earth retaining structural member shall be measured upto the dredge line only for measuring depth. No payment shall be made for the embedded structural member below dredge line. The payment shall be made only for the surface area and nothing extra is payable for erecting system of sheets/ pegs/ wedges/ Waler beam/ channel etc.
- xvii. **Rates:** The Rate shall be inclusive of all the operations, analysis, design, redesign, drawings, men, material, machinery, T&P etc. for temporary earth retaining structure, removal of temporary earth retaining structure, soil investigation, geo technical survey to locate the underground services / cables, water supply and sewer lines etc. equipment, instrumentation inserts, anchors, waler beams materials, equipment machineries tools tackles and plants, bailing out water etc. complete required for safe execution of work as per approved structural design / drawing and as per direction of Engineer-in -charge .
- xviii. Rate of item is inclusive of detailed soil investigation of area where construction activity to be carried out including Geo-technical survey of the area for locating electric, sewer water supply lines and other services and ensuring its safety, functionality in the proposed area of construction.

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 वर EE/डेप्यार Cont.

### Special Condition for Malba Disposal

- 1 Contractor shall have to make himself fully acquaint with the procedure of dumping malba at authorized EDMC (East Delhi Municipal Corporation) dumping ground well in advance. No hindrance shall be entertain on this account.
- 2 The payment of disposal of malba shall be made against the quantities of malba as per receipt issued by EDMC authority at the dumping ground at Ghazipur or other nearby specified dumping ground of EDMC.
- 3 The malba shall be disposed/removed from the site within 72 hours from the time of intimation from the Engineer-in-Charge.
- 4 For the purpose of removal of malba contractor shall have to make his own arrangement of adequate no. of vehicles required at the EDMC authorized dumping ground including necessary registration of vehicles for this purpose. Nothing extra shall be paid on this account.
- 5 The contractor shall intimate contact number/ mobile number of himself as well as of the supervisory staff who have to carry out this job of disposal of malba.
- 6 Contractor shall pay initially the actual EDMC dumping ground tax (including advance amount if required by EDMC to be deposited with them) to the EDMC authorities/in-charge at dumping ground (Ghazipur) or other nearby specified dumping ground of EDMC and the same shall be reimbursed from time to time to the contractor by department on production of receipt of such charges.

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**Special Conditions to comply directives of Hon'ble National Green Tribunal**  
**dated 04.12.2014 & 10.04.2015 and EIA Guidance Manual issue in**  
**February 2010**

1. The contractor shall not store/dump construction material or debris on metalled road and shall keep the construction material on the physically demarcated space by the Engineer-in-Charge to ensure the free flow of traffic or pedestrian.
2. The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading, and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
7. The contractor shall ensure that C&D waste is transported to the C&D waste site only and due record shall be maintained by the contractor.
8. The contractor shall compulsory use of wet jet in grinding and stone cutting.
9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
10. The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
11. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a larger extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.

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13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
14. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.
15. The dismantle material/building rubbish received from dismantling/ demolishing shall be dumped to the dumping ground in properly covered truck with precaution. Agency shall submit the hard copy of photograph showing the properly covered truck disposing the dismantles material/ building rubbish. Failure of which shall be sternly dealt and a penalty @ Rs.500/- per trip of truck shall be levied and the decision of Engineer-in-charge shall be final & binding.
16. There shall be no burning of leaves, plastic etc at construction site.
17. No hot mixing shall be allowed on the road side during the construction and repair work of road. The agency will ensure that coaltar / bitumen and / or ashalt mix are brought in molten conditions only and to melt the same at site will not be allowed.
18. Any clearance / permission, if required from National Green Tribunal (NGT), then the same shall be obtained by the contractor and nothing extra shall be paid on this account.

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8	Ceramic tiles	Kajaria, Somani, H&R Johnson, Bell Orient
9	Vitrified tiles	Kajaria, Somani, H&R Johnson, Bell, RAK, Asian, Marbita, Oreva
10	Precoated iron galvanized profile sheet and accessories	Lloyddeck, Trackdeck, Multiclad, TATA, Bluescope, Dyna Roof
11	Water proofing compound	FOSROC, Sika, CICO, Dr. Fixit, Ardex Endura
12	Wall putty	JK Wall putty, Birla putty
13	Paint	Akzo Nobel, Berger, Jensions and Nicholson, Asian, Nerolac, ICI Dulex paints
14	OIL BOUND DISTEMPER	ASIAN, BERGER, NEROLAC, ICI, DULUX
15	STEEL PRIMER	ICI, NEROLAC, BERGER, ASIAN PAINTS
16	WOOD PRIMER	ICI, NEROLAC, BERGER, ASIAN PAINTS
17	Aluminium sections	Jindal, Hindalco, Indalco, Mahaveer
18	Cement OPC – 43 Grade	ACC, UltraTech, Vikram, Shree Cement, Ambuja, Jaypee Cement J.K.Cement & Birla
19	Glass (float/ sheet)	Modiguard, Saint Gobian, TATA Continantal, HNG
20	Vitreous china sanitary ware	Paryware, Hindware, CERA
21	Stainless Steel sink	Nirali, Jayna, Alex
22	G.I pipes	Jindal, TATA, Prakash Surya
23	G.I fittings	Unik, ZOLOTO, DRP-M, MAC
24	Rain water & PVC pipes & fittings	Prince, Supreme, Finolex, SFMC
25	Gunmetal valves	Leader, Sant, Zoloto
26	Upvc pipes & fittings	Supreme, Finolex, SFMC, Prince
26	Cpvc pipes & fittings	Supreme, Finolex, SFMC, Prince
27	Stoneware Pipes, Gully Traps (IS 651)	Pragati, Perfect, Burn, C&R
28	C.I covers & Manhole covers	RIF, KK, NITCO
29	CP Brass Fittings & Accessories	Kingston, Prayag, Parko, PRIMA, MARC (Oriental)
30	Floor Drain Fixture & Channel Gratings	Chilly, Neer, ACO
31	C.P. Grating for Floor Trap	Chilly, GMGR, Kingston, Parko
32	Cast Iron Pipes & Fittings Manhole covers and frames As per IS:3989 (Pipes & Fittings)	NECO, KAPILANSH, SKF, RIF
33	Cast Iron Pipes & Fittings Manhole covers	NECO, Raj iron Foundry, SKF, SRIF, RIF

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	and frames As per IS:1729 (Manhole covers and frames)	
34	Pipe clamp & supports	Chilly, Euro Clamp, Hi tech
35	GM / Forged Brass Ball Valves	Zoloto, DRP, Sant, Leader
36	Butterfly Valve	Audco, Zoloto, Advance
37	Ball Float Valve	Zoloto, HBD, Esseti, DRP
38	PVC Water Tanks	Sintex, Rotoplast, Polycon, Sheetal
39	SFRC MH cover & frame and gratings	KK Manholes & Gratings, SFP/Steel Fibre Product Pragati
40	Anticorrosive Bitumastic Paint	Shalimar, Berzer, Eveclac
41	Epoxy Paint	Asian, Berger, J&N
42	Fastener	Fisher, Hilti, Canon
43	Sealant & Additives	Asian paints, Fosroc, Pidilite, CICO, Ardex Endura
44	Concrete Additives	SIKA, Fosroc, CICO, Pedilite Roff
45	Polymer sealant for expansion joint	SIKA, CICO, Pidilite, G.E.Silicon, Ardex Endura.
46	RCC pipe	Ashok Cement pipe, KK, Pragati
47	APP membrane	Lloyd Insulation, Builtech Products Pvt. Ltd., CICO technologies Ltd., FOSROC chemicals, STP Ltd., SIKA, IWL India Ltd.
48	Cement Concrete paver tiles	NITCO, ULTRATECH, UNISTONE
49	PTMT Fittings	Prayag, Polytuf.
50	PPR pipes and fittings	Amitex, Supreme, SFMC.
51	Water proofing cement paint	Snowcem, Asian, Dulex, Ardex Endura
52	Structural Steel Sections	TATA, SAIL, RINL
53	Poly Carbonate Sheet	M/s Nu-Plast pipes & Profiles, MG Polyplast Industries Pvt. Ltd., Genesis roofing Flex tuff Industries.
54	Terrozo Tiles	NITCO, ULTRATECH, UNISTONE
55	READY MIXED CEMENT CONCRETE	According to availability and prior approval of competent authority. (UNITECH, ACC, ADITYA BIRLA, TECHNO CONCRETE & AHLCON, LAFARGE, ULTRATECH, AFCON, L&T, RMC INDIA & NDCON CONSTRUCTIONS, V.K. READY MIX CONCRETE PVT. LTD. )
56	STEEL WINDOWS, PRESSED STEEL FRAMES	SAN HARVIC, STEELMAN INDUSTRIES, PD INDUSTRIES, METAL WINDOWS, CHANDNI INDUSTRIES, GANPATI UDYOG (RAJPURA)
57	ALUMINIUM COMPOSITE PANEL	ALUCOBOND, REYNOBOND, ALPOLIC, ALUDECOR
58	SPECIALISED AGENCIES FOR ALUMINIUM GLAZING, STRUCTURAL GLAZING, ALUMINIUM DOOR & WINDOWS, ACP WORK.	S.P. FABRICATORS (BOMBAY, DELHI), ALCOHNS (GURGAON), WINDORZ INDIA PVT. LTD. (DELHI), ALKARMA, BHARAT ARCHIMETAL, AGV ALUMINIUM (P) LTD.
59	SILICON SEALANT	GE, DOW CORNING, PIDILITE, FAIRMATE
60	SOLVENT BASED SILICONE REPELLENT COATING	DR. FIXIT PIDILITE WR OR D.C. - 6689 SOLVENT BASED WATER REPELLENT, FAIRMATE, BASF, ARDEX ENDURA.
61	LGSF SECTIONS	EVEREST INDUSTRIES LTD., JINDAL MAC TAC., INTERARCH BUILDING PRODUCTS PVT. LTD.
62	Bearings	J.Sons, MECTO, Sanfield (India) P Ltd., Z-Tech (India) Pvt. Ltd.
63	Bitumen	IOCL, BPCL, HPCL. IBP, HINCOL

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64	Bitumen VG-30	IOCL, BPCL, HPCL
65	Mild Steel Tubes	Tata, Llyods, NSL, Jindal
66	Reinforcement Steel TMT bars 500 D (Primary Manufactures)	SAIL, Tata steel Ltd., RINL, Jindal Steel & Power Ltd. and JSW Steel Ltd. Shayam Steel.
67	Welding Electrodes	ESAB, Advani-orlikon, weld Alloy
68	Water proofing	CICO, SWC, SIKa, Fosroc.
69	Bar Couplers	Dextra, Moment
70	Reinforcement soil wall system	AIML, VSL, Garware wall ropes Earthcon System, Z-Tech India
71	Anti Carbonation paints	CICO, MBT, and FOSROC
72	Polymerised modified bitumen	IOCL, BPCL, HPCL, Hindustan Colas, Tiki Tar
73	Thermoplastic Paints	CBM, CMS, Reliance Thermoplastic, SUNRISE
74	PVC Water Stops	Foxopan, Maruti, Rubber
75	RMC	RMC India, ACC, Birla, Ultratech, Lafarge, NDCON Constructions, Techno Easycrrete Pvt. Ltd., Raj Ready Conc. Works Pvt. Ltd., M/s V.K. RMC Pvt. Ltd., Shree Ram RMC Pvt. Ltd.
76	Kerb stone/Paver Blocks	KK, CICO, NITCO, HPL, Krishna, Awesome, Dalal
77	Precast Drain Covers/Kerb Channels/ RCC Slab	KK, CICO, NITCO, HPL, Krishna, Awesome, Dalal Terrafrima
78	Waste Plastic Modifier	M/s S.K. Polymers Delhi and M/s K.K. Polymers Bangalore
79	Polymer Modified Cationic Bitumen Emulsion	Hindustan Colas, Tiki Tar, A.R. Thermosets, VCS Bitumax, Petrochem

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# PART-C

## (ELECTRICAL WORKS)

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## PROFORMA OF SCHEDULES

### SCHEDULE 'A'

Schedule of Quantities attached on page No.206 to 215

(Elect. Work Page 206 to 215)

### SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

Sl. No.	Description of Item	Qty.	Rates in Figure & Words at which the material will be charged to the contractor	Place of Issue
1	2	3	4	5
--- NIL---				
Note :- All the materials to be arranged by the contractor as per the conditions attached and IS codes				

### SCHEDULE 'C'

Tools and Plants to be hired to the contractor

Sl. No.	Description	Hire charges per day	Place of issue
1	2	3	4
---- NIL----			

### SCHEDULE 'D'

Extra schedule for specific requirements/documents for the work, if any:-

Attached as Terms & Conditions and Particular Specifications

### SCHEDULE 'E'

Reference to General Conditions of contract:

General condition of contract for CPWD works 2014, amended/modified upto the date of receipt of tender.

NAME OF WORK: -

Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work).

Estimated Cost

:- Rs. 38,22,66,940/- (Elect.- Rs. 4,61,39,301/- + Civil-Rs. 33,61,27,639/-)

Earnest Money

:-Rs. 48,22,669/-

Performance Guarantee

:-Refer corresponding provision of NIT of major component

Security Deposit

:-Refer corresponding provision of NIT of major component

### SCHEDULE 'F'

General Rules & Directions:

Officer Inviting Tender Executive Engineer, DHC&ND (M-451), PWD, Delhi

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3. See below.

Definitions:

2(v) Engineer-in-Charge

EE(E) PWD EMD M-451, (For Elect. Portion Only)

2(vii) Accepting Authority

As per financial power of manual-2014 with updated circular

.....

2(x) Percentage on cost of materials and 15%

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labour to cover all overheads and profits.

- 2(xi) Standard Schedule of Rates  
2(xii) Department  
2(xiii) Standard CPWD contract Form

DSR 2016 with up-to-date correction slips.  
PWD (GNCTD)

GCC 2014

2014 modified and corrected upto last date of submission of tender.

**Clause 1**

- (i) Time allowed for submission of performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance

As per major component

- (ii) Maximum allowable extension with late fee @ 0.1% per day of performance Guarantee amount beyond the period provided in (i) above in days

As per major component

**Clause 2**

Authority for fixing compensation under clause 2.

Superintending Engineer,  
Project Circle, PWD.

**Clause 2A.**

Not applicable.

**Clause 5**

Number of days from the date of issue of letter Of acceptance for reckoning date of start

As per major component

**TABLE OF MILE STONE (S)**

Mile stone(s) as per table given below :-

S. No	Financial Progress	Time Allowed (from date of start)	Amount to be with held in case of non achievement of mile stone
1.	1/8 <sup>th</sup> (of whole work)	1/4 <sup>th</sup> (of whole work)	As per major component
2.	3/8 <sup>th</sup> (of whole work)	1/2 <sup>th</sup> (of whole work)	
3.	3/4 <sup>th</sup> (of whole work)	3/4 <sup>th</sup> (of whole work)	
4.	Complete	Full	

Time allowed for execution of work. -Refer corresponding provision of NIT of major component

**Authority to decide**

- (i) Extension of time - As per major component  
(ii) Rescheduling of miles stones - As per major component  
(iii) Shifting of date of start - As per major component

**Clause 6**

Clause applicable (6, 6A)

6A Applicable

**Clause 7**

Gross work to be done together with net payment/adjustment of advances for material collected, if any, since the last such payment for being eligible to

10 Lacs

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interim payment.

**Clause 7A**

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-charge.

**Whether clause 7A shall be applicable.**

Yes, Applicable

**Clause 10 A**

As per scope of work and as per direction of Engineer-in-charge.

N.A

**Clause 10 B (ii)**

**Clause 10 C**

Component of labour expressed as percent of value of work

25% of gross amount of elect. Portion.

**Clause 10 CA**

Not Applicable

SI No.	Material covered under this clause	Nearest Materials (other than cement, reinforcement bars, the structural steel and POL) for which All India Wholesale Price Index to be followed:	Based Price and its corresponding period of all the Materials covered under clause 10 CA*
Not Applicable			

**Clause 10 CC**

Not Applicable

**Clause 11**

Specifications to be followed for execution of work

CPWD General Specifications for Electrical Works, Part-I (Internal) - 2013, Part-II (External) 1995, HVAC works 2004, (Part-V: Wet Riser & Sprinkler System), 2006, (Part-IV Sub-Station), 2013 (Part-VII:DG Sets), (Part-III Lift & Escalators)2003, as amended up to date & as per terms and conditions attached

**Clause 12**

- |      |   |      |
|------|---|------|
| (i)  | Deviation limit beyond which clause 12.2 & 12.3 shall apply for Building work superstructure. | 30 % |
| (ii) | Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work              | 100% |

**Type of work**

Original Work

**Clause 16**

Competent Authority for deciding reduced rates

SE, PWD Project upto 5% of contract value under his own authority and beyond 5% of contract value with prior approval of Chief Engineer (East) M.

**Clause 18**

- i List of mandatory machinery, tools & plants to be deployed by the contractor at site – As per requirement at site and as per direction of Engineer-in-Charge.

**Clause 25**

Constitution of Dispute Redressal Committee (DRC)	Competent Authority to appoint DRC.
C. DRC for total claims more than Rs. 25 Laacs:	As per major component

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As per major component	
<b>D. DRC for total claims upto Rs. 25 Lacs:</b> As per major component	Chief Engineer, (East), PWD, (GNCTD)

**Clause 36 (i)**

Requirement of Technical representatives and recovery Rate

<b>Clause 36(i): "Requirement of Technical Representative(s) and Recovery Rate"</b>						
Sl. No.	Minimum Qualification of technical representative	No.	Minimum Experience (years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)	
					Figure	Words
1.	Graduate Engineer	1	20 (and having experience of one similar nature of work)	Project Manager	Rs. 60,000/- per month	Rs. Sixty Thousand per month
2	Graduate Engineer	1+1	12 (and having experience of one similar nature of work)	Deputy Project Manager	Rs. 40,000/- per month	Rs. Forty Thousand per month
3	Graduate Engineer Or Diploma Engineer	2+1	5 or 10 respectively	Project/Site Engineer	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
4	Graduate Engineer	1	8	Quality Engineer	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
5	Diploma Engineer	1	8	Surveyor	Rs. 15,000/- per month	Rs. Fifteen Thousand per month
6	Graduate Engineer	1+1	6	Project Planning/billing Engineer	Rs. 20,000/- per month	Rs. Twenty Thousand per month

**Clause 42**

i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates DSR 2014 printed by CPWD.

(iii) Variations permissible on theoretical quantities.

b) Cement

Cement for works with estimated cost put to tender not more than Rs. 5 Lakh.

**3% Plus/Minus**

For works with estimated cost put to Tender more than Rs. 5 lakh.

**2% plus/minus**

b) Bitumen for all works.

**2.5% Plus side only and Nil on Minus side.**

c) Steel reinforcement and structural steel sections for each diameter, section and category.

**2% Plus/Minus**

d) All other materials.

**Nil.**

**RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION**

S. No.	Description of Item	Rates in figures and words at which recovery shall be made from the contractor.	
		Excess beyond Permissible variation	Less use upto the permissible Variation
1.			

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## TERMS AND CONDITIONS FOR EI WORK

1. The work shall be carried out strictly in conformity with the CPWD General Specification 2014 amended upto date.
2. All the materials, whatsoever, to be supplied and provided by the contractor should be of standard and approved quality. These should be got approved from the Engineer-in-Charge or his authorized representative before installation. No payment will be made for any unapproved or sub standard/ rejected materials used on the work. Rejected materials should be removed from the site of work within 48 hours, failing which the same will be liable for removal by the department at the risk and cost of the contractor without any liability.
3. The electrical work shall be done strictly in close co-ordination with civil works where-ever these are in control of this office. No claim for idle labour shall be entertained under this agreement.
4. Any damage done to the building while executing the electrical work should be made good to the entire satisfaction of the department. The chases, holes etc. cut in the walls and roofs should be filled within two days. All malba should be removed on the same day. In case of failure to do so, it will be got done by the Engineer-in-Charge or his authorized representative at contractor's risk and cost.
5. All watch and ward of the materials installed at work will be the responsibility of the contractor till their handing over to the department on completion of work. Merely recording of measurement and running payments made to contractor will not mean handing over of installation. There will be regular handing over / taking over of the installation. Any missing item shall have to be made good by the contractor.
6. Contractor shall submit neatly prepared electrical inventory of fittings provided along with completion plan in triplicate (one of them on tracing cloth) and also test report of the electrical installation, failing which necessary recovery will be affected.
7. Laying of the conduits, position of switches, fittings and cable routes etc. should be got approved from the Engineer-in-charge or his authorized representative. It will be in the interest of the contractor to mark the above layout at site and get it approved before actual execution of the work otherwise it will not be accepted and the contractor will have to get it redone for which no extra payment will be made.
8. Persons executing electrical work should have valid electrical license as required under I.E Act.
9. For Re-wiring, empty conduits shall be shown to Engineer-in-Charge and got certified.
10. All inter-connections in the switch-boards shall be carried out with suitable cables commensurate with the current carrying capacity.
11. Where-ever conduits are laid without wiring, they shall be provided with fish wire and nothing extra shall be paid for the later.
12. The sub-main and circuit wiring stipulated or otherwise will be measured on linear basis and paid from end to end of conduit. No extra payment will be made for loose wiring for connections. Sufficient length of wire is, however, to be left as per directions of Engineer-in-Charge or his authorized representative for connections etc.
13. All Control switches and DB's where-ever required will be numbered and marked with paint and nothing will be paid extra on this account.

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14. All Metal Boxes and junction boxes should be cleared and cleaned properly and painted before fixing the accessories.
15. Supply items are to be got checked from Engineer-in-charge in advance, otherwise no payment shall be released.
16. If any condition is put by the contractor, which is not as per CPWD specifications/terms and conditions of NIT, his tender is liable to be rejected.
17. All termination of electrical cables for sizes higher than 4 sq.mm shall have to be done with proper thimbles/reducer uncrimping Process. Copper thimble reducer shall be used for copper cable and aluminum ones for Al. cables.
18. Before cable is laid in the ground the route must be got approved from Engineer-in-Charge. The cable trench shall be as straight as possible.
19. Erection and cement concrete foundation for poles, feeder pillars and all underground items are to be done in the presence of authorized representative of Engineer-in-Charge and in whose presence the cement and aggregate is to be mixed. The collars of the poles shall be plastered with cement and mixture to give smooth finish. All masonry and RCC work should be properly cured as per CPWD specifications for building works. All C.C-collars are to be painted with at least 2 coats of paint. Colour of paint to be got approved from Engineer-in-Charge or his authorized representative.
20. All screws/nuts bolts should be galvanized/cadmium plated only, as the case may be.
21. Contractor will have to abide by the instructions contained in CPWD Manual.
22. Payment will be made only after the firm submit computerized measurement book as per clause 6A.
23. The cable in wiring work shall be used FRLS only and of the make as per enclosed list.
24. The dismantled material if any shall be returned to the JE (E) incharge of the work for Maintenance of records for such materials.
25. All LED fittings shall be Guarantee/Warranty period for 5 Years. Lowest firm have to submit Guarantee/ Warranty for 5 years from manufacturer at the time of supply of material.
26. Agency shall submit LM-79 test Certificate for Lumens at the time of raising bill.

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## TERMS AND CONDITIONS FOR OCTAGONEL POLE

1. The work shall be carried out, as per CPWD General Specifications for electrical works Part-I (Internal 2013) & Part-II (External of 1995), and IE rules.
2. All material brought by the contractor for use on the work shall have to be of good quality. The same has to be got approved from the Engineer-in-charge before using the same on site. No claim for defective material brought by the contractor at site will be entertained.
3. All T & P required for the execution of works, digging of trenches, handling of materials and testing of installation shall be arranged by the contractor at his own cost and nothing extra shall be paid on this account.
4. The contractor has to carryout excavation of trenches for cable & pipe laying in a fixed time frame in close coordination with civil contractor. It will be the responsibility of the contractor to carry out the excavation of trenches within target period utilizing all possible resources.
5. Maintenance, operation, watch & ward during the execution of work shall be the responsibility of the contractor without any additional payment.
6. The contractor and his workmen shall have to abide by the traffic rules of Delhi Traffic Police. No claim of idle labour or any other claim on this account shall be entertained by department. The working hours are to be suitably adjusted.
7. Water and electricity required for execution of work and labour etc including temporary accommodation for them will be arranged by the contractor himself at his own cost and nothing extra shall be paid on this account.
8. The contractor is advised to unroll the cable drum properly at the time of laying of cable, so that the cables are not damaged.
9. The contractor will have to provide proper alignment of pole and focus the lighting luminaries on the road, as per design and direction of Engineer-in-charge.
10. The contractor will be required to clear shrub etc. by cutting them on the cable route for which no extra payment will be made. Tree cutting is not in the scope of this work.
11. All luminaries shall be fitted on the bracket by drilling and threading on the bracket with tightening bolts and Lock nuts, Spring washer etc.
12. All the associated works considered necessary for completion of whole work including any preliminary work deemed to be included within the scope of the tender.
13. The coarse sand and stone aggregate for pole foundation should be of sound quality, containing siliceous material, clean shape free from earth, organic material & salt, Mixture of concrete shall be stiff & such as to produce sound & compact water proof concrete. It should be free from grit & dirt.
14. The contractor will procure ordinary Portland cement having 43 grade conforms to IS-455, (latest revision) from reputed manufacturers of cement such as ACC, L&T, JP, Rewa, Vikram, Shri Cement, Birla Jute, J.K. and cement corporation of India etc.

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15. The pole foundation will be casted strictly, as per drawing approved by the department or as per pole manufacturer's foundation design/standard practice. Pre-casted foundations with proper specification is also allowed to be used by meeting all required tests. Foundation drawing shall be submitted by the contractor, as per site conditions and vetted by the Engineer-in-Charge.
16. The firm shall have to provide GI foundation bolts with nuts & washers and GI arm bracket manufactured from the pole manufacturing company only.
17. The contractor shall get material inspected before dispatch from the factory, in this regard firm shall make suitable arrangement for the Department's authorized representatives.
18. The defect liability period after handing over the installation to the department is 12 months. The security deposit shall be released only after expiry of defect liability period.
19. It will be the responsibility of the contractor to arrange the site for storing the dismantled material or for other purpose related to this contract. Nothing extra shall be paid to the contractor in the regard.
20. The contractor shall make good the damages of Central Verge, Slip Road and bituminous road damaged during trenchless digging and cable laying during the course of execution of street light works to its Original Shape for which nothing extra shall be paid.
21. All materials shall be dispatched from works, after due inspection by Engineer-in-charge or his representative; this condition may be waived off on the sole discretion of Engineer-in-charge, in case of uncontrolled condition/situation.
22. The firm should submit original catalogue for each type of luminaries, poles, lamps etc. for approval, before procurement.
23. The dismantled material (as specified in SOQ) shall be taken away by the contractor, for which necessary credit has been made in the SOQ and other dismantled material (not specified in SOQ) shall be deposited at JE(E) Store for which nothing extra shall be paid towards cartage charges.

**Specifications for Octagonal poles:-**

24. All street light poles will be numbered suitably, as per directions of Engineer-in-Charge for which nothing extra shall be paid.

**Design:-** This shall be octagonal in shape and shall be designed to sustain basic wind speed of 47 meters/second (3 second gust) as measured at a height of 8 meters. The safety factor for wind load in ultimate limit state shall be taken as 1.5. The structure shall conform to IS 875 – part 3: 1987 relating to wind load on structure and also conform BSEN 40 -1 : 1992 relating to general construction.

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The grade of steel used shall be S-355, as per BSEN – 10025 or equivalent Indian Standards. Manufacturing of poles shall be done out of manufacturer supplied straight sheet to eliminate deformity due to decoiling of rolls.

**Pole Shaft:-** The pole shaft up to 8 meters height shall have octagonal cross section and shall be continuously tapered with single longitudinal welding. There shall not be any circumferential welding. The welding of pole shaft shall be done by submerged arc welding process. The base plate shall be fixed by welding to the pole shaft at two locations i.e. from inside and outside.

The pole shall be hot dip galvanized, as per IS 2629/IS 2633/IS 4759 standards with radio remote controlled Tunnel enclosed galvanizing bath. In order to attain the best quality of the galvanization, there should be an uniform and consistent control of Zink in bath. The pole shall be with average coating thickness of 70 Microns. The galvanizing shall be done with single dipping. Bending of the sheet into polygonal shape done through a CNC controlled, Laser aligned single blade bending process.

**Door Opening:-** Polygonal poles shall have door of suitable size at the elevation of 2 meters from the base plate. The door shall be flush with locking facility. The pole shall be additionally reinforced with a welded steel section, so the section at door is unaffected and undue buckling of the cut section is prevented.

**Base Flange:-** The base plate shall be fabricated from steel plate free from laminations. The pole up to 8 meters should be mechanically strong, single longitudinally welded, ideal for corrosive atmosphere and camouflaged junction box & electrical control gears. The contractor shall give at least 15 days notice, for inspection/ evaluation of poles. In factory poles will be fully tested, as per norms and specifications. The firm should also confirm that poles, stand strictly confirming to specifications mentioned above & pole which will not meet technical specifications will be straightway rejected and contractor have to replace it.

## 25. Payment Terms:-

- 70% of Agreement rate against supply of material.
- 15% of Agreement rate after installation.
- 15% of Agreement rate on successful testing & Commissioning.
- The material not used at site due to any reasons shall be taken back by the contractor and nothing extra shall be paid on this account.

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Executive Engineer (E)  
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## TERMS AND CONDITIONS FOR RISING MAIN ETC

### **GENERAL**

- 1.1 This specification covers manufacture, testing, as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning putting into operation of compact type rising main alongwith associated equipment etc. and final testing of equipments.
- 1.2 Location: The compact type rising main alongwith associated equipments will be installed in the **Bal Sadan, Timarpur, Delhi.**
- 1.3 The work shall be executed, as per CPWD General Specifications for Electrical Works Part-I, II & IV, as amended up to date, relevant I.E. Rules, BIS/IEC and as per directions of Engineer-in charge. These additional specifications/ conditions are to be read in conjunction with above and in case of variations; specifications given in these additional conditions shall apply. However, nothing extra shall be paid on account of these additional specifications and conditions, as the same are to be read along with schedule of quantities for the work.
- 1.4 The tenderer should in his own interest visit the site and get familiarize with the site conditions before tendering. No claim in what so ever form shall be entertained by the department subsequently.
- 1.5 No T&P shall be issued by the Department and nothing extra shall be paid on account of this.

### **2. COMMERCIAL CONDITIONS**

- 2.1 **Type of Contract:** The work will be awarded by this tender shall be treated as indivisible works contact.

### **3. TERMS OF PAYMENTS**

The following percentage of contract rates for the various items included in the contract shall be payable against the stage of work shown herein.

- 3.1 80% after initial inspection and delivery at site in good condition on pro-rata basis.
- 3.2 10% after completion of installation in all respects.
- 3.3 Balance 10% will be paid after testing, commissioning & handing over to the department for beneficial use.

### **4. Rates**

- 4.1 The rates quoted by the tenderer shall be firm and inclusive of all taxes (including works contract tax, GST, labour cess), duties levies, octroi etc. and all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary construction of storage, risks, over head charges, general liabilities /obligations and clearance from local authority (if applicable). However, the fee for local authority's inspections shall be borne by the department.
- 4.2 The department will not issue Octroi exemption certificate.
- 4.3 The contractor has to carry out maintenance, as per manufacturer's standard practice for a period of 12 months from the date of handing over. Nothing extra shall be paid on this account.

### **5. Completeness of Tender**

All sundry equipment, fittings, unit assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender irrespective of the fact whether such items are specifically mentioned in the tender documents or not.

### **6. Storage and Custody of Materials**

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The space at site, if available, may be used for storage of sundry materials and erection equipments or else the agency has to make his own arrangements. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.

**7. Care of the Building:**

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at hit cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

**8. Completion Period**

The completion period indicated in the tender documents is for the entire work of planning, designing, approval of drawings etc., arrangement of materials & equipments, delivery at site including transportation, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge.

**9. Guarantee**

9.1 All equipments shall be guaranteed for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer in- Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regards shall be final & binding on the contractor.

9.2 The tender shall guarantee among other things, the following:

- (a) Quality, strength and performance of the materials used, as per manufacturers standard practice.
- (a) Safe mechanical and electrical stress on all parts under all specified conditions of operation.
- (b) Satisfactory operation during the maintenance period.

**10. Power Supply:**

To be arranged by the contractor, for which nothing extra shall be paid by department.

**11. Water Supply:**

To be arranged by the contractor, for which nothing extra shall be paid by department.

**12. Acceptable makes of Various Equipments:**

The Acceptable makes of various equipments/ components/accessories have been indicated in "Acceptable makes". The tenderer shall work out the cost of the offer on this basis. Alternate makes are not acceptable.

**13. Data Manual and Drawings to be furnished by the Tender :**

13.1 With Tender: The tenderer shall furnish along with the tender, detailed technical literature, pamphlets and performance data for appraisal and evaluation of the offer.

**13.2 After award of work**

The successful tenderer would be required to submit the following drawings within 15 days of award of work for approval, before commencement of installation.

- (a) General arrangement drawing.
- (b) Details of equipments theirin.
- (c) Cable layout etc.

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- (d) Any other drawings necessary for the job.
14. The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments operation and maintenance including preventive maintenance & trouble shooting together with all relevant data sheets, spare parts catalogue etc. all in triplicate.
15. **Extent of Work**
- 15.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning, as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by the specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract as this is a turnkey job.
- 15.2 In addition to supply, installation, testing and commissioning of Sandwich type rising main and associated equipments, following works shall be deemed to be included within the scope of work to be executed by the tenderer, as this is a turnkey job-
- Minor building works necessary for installation of equipments, foundation, making of opening in walls or in floors and restoring them to their original condition / finish and necessary grouting etc. as required.
  - All supports for cables and MS channels for erection of Sandwich type rising main and associated equipment etc. as are necessary.
  - Testing of Sandwich type rising main and associated equipment
  - Getting local authorities inspection done & obtaining approval for energizing the installation. However, necessary fees for inspection shall be borne by the Department.
16. **Exclusion and work to be done by other agencies:**  
The following shall be excluded from the scope of the work:
- Major dismantling of any existing building work.
17. **Inspection and Testing**
- 17.1 All major equipments i.e. Sandwich type rising main and associated equipment shall be offered for initial inspection at manufacturer's works. The contractor will intimate the date of testing of equipments at the manufacturer's works in India before dispatch. The Successful tenderer shall give advance notice of minimum two weeks regarding the dates proposed for such tests to the department's representative to facilitate his presence during testing. The Engineer-in-charge may witness such testing. The cost of the Engineer's visit to the factory will be borne by the department. Equipments will be inspected at the manufacturer/Authorized dealer's premises, before dispatch to the site by the contractor if so desired by the Engineer-in-charge.
- 17.2 Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Engineer in-charge and consignee.
- 17.3 After completion of the work in all respects the contractor shall offer the installation for testing and operation.
18. **COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS.**
- 18.1 All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:
- Factories Act.
  - Indian Electricity Rules.

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- (iii) B.I.S. & other standards, as applicable.  
 (iv) Workmen's compensation Act.  
 (v) Statutory norms prescribed by local bodies like CEA, Power Supply Co. etc.
- 18.2 After completion of the installation, the same shall be offered for inspection by the representatives of the local Authority. The contractor will extend all help including test facilities to the representatives of local authority. The observations of local authority will be attended by the contractor. The installation will be commissioned only after getting clearance from local authority.
- 18.3 Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.
- 18.4 Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tender liable for penalty of **Rs. 200/-** for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.
- 19.0 **Indemnity :**  
 The Successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipments under the supervision of the successful tenderer in so far as the latter is responsible. The Successful tenderer shall also provide all insurance including third party insurance, as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.
20. **Erection Tools:**  
 No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.
21. **Insurance and Storage:**  
 All consignments are to be duly insured upto the destination from warehouse at the cost of the contractor. The insurance covers including third party insurance, as may be necessary to cover the risk including the loss of equipments/accessories etc. due to thefts and / or in any other form shall be provided upto the value of the contract and shall be valid till the equipment is handed over to the department duly installed, tested and commissioned. No extra payment shall be made on this account.
22. **Verification of Correctness of Equipment at destination:**  
 The contractor shall have to produce all the relevant records to certify that the genuine equipments from the manufacturers has been supplied and erected.
23. **Painting :**  
 This shall include cost of painting of the entire installation. The major equipments like Sandwich type rising main and associated equipment etc. shall be factory final finish painted. The agency shall be required to do only touching to the damages caused to the painting during transportation, handling & installation at site, if there is no major damage to the painting.
24. **Training**  
 The scope of works includes the on job technical training of two persons of department at site. Nothing extra shall be payable on this account.
25. **Maintenance :**
- 25.1 Sufficient trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation.

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25.2 The maintenance, routine as well as preventive, for one year from the date of taking over the installation, as per manufacturer's recommendation shall be carried out on quarterly basis.

**26. Interpreting Specifications:**

In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

- (a) Schedule of quantities
- (b) Technical specifications
- (c) Drawing (if any)
- (d) General specifications
- (e) Relevant BIS or other international code in case BIS code is not available.

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## COMMERCIAL AND ADDITIONAL CONDITIONS FOR SUB STATION

### 1. GENERAL

- 1.1 This specification covers manufacture, testing as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning putting into operation of sub-station equipments consisting of HT panels, transformers, bus ducts, LT panels, HT cabling etc. and final testing of sub-station equipments.
- 1.2 Location: The sub- station equipments will be installed in the newly constructed sub-station building in the Bal Sadan, Timarpur.
- 1.3 The work shall be executed as per CPWD General Specifications for Electrical Works Part-I, II & IV, as amended up to date, relevant I.E. Rules, BIS/IEC and as per directions of Engineer-in charge. These additional specifications/ conditions are to be read in conjunction with above and in case of variations; specifications given in these additional conditions shall apply. However, nothing extra shall be paid on account of these additional specifications and conditions, as the same are to be read along with schedule of quantities for the work.
- 1.4 The tenderer should in his own interest visit the site and get familiarize with the site conditions before tendering. No claim in what so ever form shall be entertained by the department subsequently.
- 1.5 No T&P shall be issued by the Department and nothing extra shall be paid on account of this.

### 2. COMMERCIAL CONDITIONS

- 2.1 **Type of Contract:** The work be awarded by this tender shall be treated as indivisible works contact.

### 3. TERMS OF PAYMENTS

The following percentage of contract rates for the various items included in the contract shall be payable against the stage of work shown herein.

- 3.1 75% after initial inspection and delivery at site in good condition on pro-rata basis.
- 3.2 15% after completion of installation in all respects.
- 3.3 Balance 10% will be paid after testing, commissioning & handing over to the department for beneficial use.

### 4. Rates

- 4.1 The rates quoted by the tendered, shall be firm and inclusive of all taxes (including works contract tax, GST, labour cess), duties levies, octroi etc. and all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary construction of storage, risks, over head charges, general liabilities /obligations and clearance from CEA, However, the fee for the CEA inspections shall be borne by the department.
- 4.2 The department will not issue Octroi exemption certificate.
- 4.3 The contractor has to carry out maintenance as per manufacturer's standards for a period of 12 months from the date of handing over. Nothing extra shall be paid on this account.

### 5. Completeness of Tender

All sundry equipment, fittings, unit assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender

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irrespective of the fact whether such items are specifically mentioned in the tender documents or not.

**6. Storage and Custody of Materials**

The transformer rooms & HT panel rooms, if available, may be used for storage of sundry materials and erection equipments or else the agency has to make his own arrangements. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.

**7. Care of the Building:**

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at hit cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

**8. Completion Period**

The completion period indicated in the tender documents is for the entire work of planning, designing, approval of drawings etc., arrangement of materials & equipments, delivery at site including transportation, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge.

**9. Guarantee**

9.1 All equipments shall be guaranteed for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regards shall be final & binding on the contractor.

9.2 The tender shall guarantee among other things, the following:

- (a) Quality, strength and performance of the materials used as per manufacturers standards.
- (c) Safe mechanical and electrical stress on all parts under all specified conditions of operation.
- (d) Satisfactory operation during the maintenance period.

**10. Power Supply:**

To be arranged by the contractor, for which nothing extra shall be paid by department.

**11. Water Supply:**

To be arranged by the contractor, for which nothing extra shall be paid by department.

**12. Acceptable makes of Various Equipments:**

The Acceptable makes of various equipments/ components/accessories have been indicated in "Acceptable makes". The tenderer shall work out the cost of the offer on this basis. **Alternate makes are not acceptable.**

**13. Data Manual and Drawings to be furnished by the Tender :**

13.1 With Tender: The tenderer shall furnish along with the tender, detailed technical literature, pamphlets and performance data for appraisal and evaluation of the offer.

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### 13.2 After award of work

The successful tenderer would be required to submit the following drawings within 15 days of award of work for approval before commencement of installation.

- General arrangement drawing of the equipments like HT panels transformers, bus duct, LT panel etc. in the sub-station building, with complete dimensions for LT Panel & Bus Duct. The tenderer shall also give dimensions, details of LT Panels and Bus Duct got tested at CPRI successfully for fault withstands capacity of 31 MVA for 1 Sec.
- Details of foundations for the equipments and the weights of assembled equipments.
- Cable/bus duct layout between HT panel boards, transformers & LT panel etc.
- Any other drawings necessary for the job.

14. The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments operation and maintenance including preventive maintenance & trouble shooting together with all relevant data sheets, spare parts catalogue etc. all in triplicate.

### 15. Extent of Work

15.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning, as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by the specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract as this is a turnkey job.

15.2 The overhead bus duct as per schedule is to connect to main LT panel. Similarly HT cable is to be laid inside the proposed sub-station in open duct between HT panel board and 2 Nos. transformers. The HT cable shall be brought at site after taking correct measurements since no joint shall be permissible in between HT panel & transformer.

15.3 In addition to supply, installation, testing and commissioning of substation equipments, following works shall be deemed to be included within the scope of work to be executed by the tenderer as this is a turnkey job-

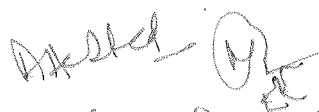
- Minor building works necessary for installation of equipments, foundation, making of opening in walls or in floors and restoring them to their original condition / finish and necessary grouting etc. as required.
- All supports for over head bus ducts, cables and MS channels for erection of panels & transformers etc. as are necessary.
- Testing of PTs/ CTs for metering & protection purpose & relay calibration & setting.
- Getting CEA inspection done & obtaining approval for energizing the installation. However, necessary fees for inspection shall be borne by the Department.

### 16. Exclusion and work to be done by other agencies:

The following shall be excluded from the scope of the work:

- Major dismantling of any existing building work.

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## 17. Inspection and Testing

- 17.1 All major equipments i.e. HT panel, transformers, bus duct, LT panel etc. shall be offered for initial inspection at manufacturer's works. The contractor will intimate the date of testing of equipments at the manufacturer's works in India before dispatch. The Successful tenderer shall give advance notice of minimum two weeks regarding the dates proposed for such tests to the department's representative to facilitate his presence during testing. The Engineer-in-charge may witness such testing. The cost of the Engineer's visit to the factory will be borne by the department. Equipments will be inspected at the manufacturer/Authorized dealer's premises, before dispatch to the site by the contractor if so desired by the Engineer-in-charge.
- 17.2 Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Engineer in-charge and consignee.
- 17.3 After completion of the work in all respects the contractor shall offer the installation for testing and operation.

## 18. COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS.

- 18.1 All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:
- (i) Factories Act.
  - (ii) Indian Electricity Rules.
  - (iii) B.I.S. & other standards as applicable.
  - (iv) Workmen's compensation Act.
  - (v) Statutory norms prescribed by local bodies like CEA, Power Supply Co., etc.
- 18.2 After completion of the installation, the same shall be offered for inspection by the representatives of the Central Electricity Authority. The contractor will extend all help including test facilities to the representatives of CEA. The observations of CEA will be attended by the contractor. The installation will be commissioned only after getting clearance from CEA.
- 18.3 Nothing in this specification shall be construed to relieve the successful tendered of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.
- 18.4 Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tender liable for penalty of Rs. 200/- for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

## 19.0 Indemnity :

The Successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipments under the supervision of the successful tenderer

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in so far as the latter is responsible. The Successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.

**20. Erection Tools:**

No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.

**21. Insurance and Storage:**

All consignments are to be duly insured upto the destination from warehouse at the cost of the contractor. The insurance covers including third party insurance as may be necessary to cover the risk including the loss of equipments / accessories etc. due to thefts and / or in any other form shall be provided upto the value of the contract and shall be valid till the equipment is handed over to the department duly installed, tested and commissioned. No extra payment shall be made on this account.

**22. Verification of Correctness of Equipment at destination:**

The contractor shall have to produce all the relevant records to certify that the genuine equipments from the manufacturers has been supplied and erected.

**23. Painting :**

This shall include cost of painting of the entire installation. The major equipments like HT panel, transformers, LT panel, bus duct, cable trays etc. shall be factory final finish painted. The agency shall be required to do only touching to the damages caused to the painting during transportation, handling & installation at site, if there is no major damage to the painting. However hangers, supports etc. of bus trunking & cable tray etc. shall be painted with required shade including painting with two coats of anticorrosive primer paint at site.

**24. Training**

The scope of works includes the on job technical training of two persons of department at site. Nothing extra shall be payable on this account.

**25. Maintenance:**

25.1 Sufficient trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation.

25.2 The maintenance, routine as well as preventive, for one year from the date of taking over the installation as per manufacturer's recommendation shall be carried out on quarterly basis.

**26. Interpreting Specifications:**

In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:

- (a) Schedule of quantities
- (b) Technical specifications
- (c) Drawing (if any)
- (d) General specifications
- (e) Relevant BIS or other international code in case BIS code is not available.

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### TECHNICAL SPECIFICATIONS FOR SUB STATION

- The work shall be carried out as per CPWD General Specifications for Electrical works (Part-IV- SUB Station) 2013 as amended upto date and CPWD General Specifications for Electrical works Part-I & II, as amended upto date, relevant IE rules, and as per directions of Engineer-in-charge.


**Note :** Any deviations from CPWD General Specifications for Electrical works (Part-IV-Sub Station) 2013 may be given by the NIT approving authority. In case there is no deviation, no deviations should be mentioned below this note.

### **CERTIFICATES**

- I. Certified that all departure from the specifications have been brought down in the forwarding letter to this tender.
- II. Except for the departures brought down in the forwarding letter the tender complies with the tender specifications in all respect.
- III. The rates quoted are Net and inclusive of all duties, levies and taxes without any conditions. We understand that any condition in the price bid shall make the tender liable for cancellation.

**(CONTRACTOR'S SIGNATURE)**

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## Terms & Conditions For D.G. Set

### **GENERAL**

#### **1.1 INTRODUCTION**

##### **1.1.1 Scope**

1.1.1.1 These specifications cover the general specifications pertaining to diesel engine driven generating sets & their installation.

1.1.1.2 These General specifications cover the equipments and materials for the DG sets, their testing and/ or inspection as may be necessary before their dispatch from their respective works, their delivery at site, all preparatory works, assembling, installation and adjustments, commissioning, final testing, putting into operation and handing over of the complete system.

##### **1.1.2 Related Documents**

These General Specifications shall be read in conjunction with the General conditions of contract. These General Specifications shall also be read conjunction with the tender specifications, schedule of work, drawings and other documents connected with the work.

##### **1.1.3 SITE INFORMATION**

The tenderer should, in his own interest, visit the site and familiarize himself with the site conditions before tendering. For any clarification, tenderer may discuss with the Engineer-in-Charge.

#### **1.2 CONFORMITY WITH STATUTORY ACTS, RULES, STANDARDS AND CODES.**

- (i) All components shall conform to relevant Indian Standard Specifications, wherever existing, as amended upto date.
- (ii) All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956, as amended up to date. They shall also conform to CPWD General Specifications for Electrical Works, part-I (Internal), 2013 and Part-II (External), Part-IV (Sub-Station) 2013, Part-VII (DG Set) 2013 as amended up to date.

#### **1.3 SAFETY CODES AND LABOUR REGULATIONS**

- (i) In respect of all labour employed directly on the work for the performance of the contractor's part of work, the contractor at his own expense, will arrange for the safety provisions, as per the statutory provisions, B.I.S recommendations, factory act, workman's compensation act, CPWD code and instructions issued from time-to-time. Failure to provide such safety requirements would make the tenderer liable for penalty for Rs. 200/- for each violation. In addition the Engineer-in-charge, shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost from the contractor.
- (ii) The contractor shall provide necessary barriers, warning signals and other safety measures, while executing the work of DG set installation, cables etc. or wherever necessary so as to avoid accident. He shall also indemnify CPWD against claims for compensation arising out of negligence in this respect.

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Contractor shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause. The department shall not be responsible for any accident occurring or damage incurred or claims arising there from during the execution of work. The contractor shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

#### 1.4 WORKS TO BE ARRANGED BY THE DEPARTMENT

Unless otherwise specified in the tender documents, the following works shall be arranged by the Department:

- (i) Space for accommodating all the equipments and components involved in the work. However, watch and ward shall be responsibility of the contractor.

#### 1.5 WORKS TO BE DONE BY THE CONTRACTOR

Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost-whether specifically indicated in the schedule of work or not:-

- (i) Foundations for equipments including vibration isolation springs/pads.
- (ii) Making good all damages caused to the structure during installation and restoring the same to their original finish.
- (iii) Minor building works necessary for installation of equipments, foundation trench for fuel line & cable, making of opening in walls or in floors and restoring them to their original condition/finish and necessary grouting etc. as required.
- (iv) All supports for exhaust & water pipes, chimney, bus trunking (if included in scope of contract). Cables, anti-vibration pads etc. as are necessary.
- (v) All electrical work and neutral earthing, body earthing, required for engine & alternator, main board, control panels, and control wiring including loop earthing, if specified in Schedule of work.
- (vi) All pipes, bus trunking and/or cable connections.
- (vii) POL, i.e. HSD oil and lub, oil for diesel engine for testing & commissioning for 12 hours including 1 hour of 10% overloading at OEA/OEM works shall be arranged by the contractor. POL i.e. HSD oil and lub. Oil for trial run of 4 Hours. at site at available load shall be arranged by the department.
- (viii) Painting of all exposed metal surfaces of equipments and components with appropriate colour.
- (ix) Clearance/Approval of the complete installation from CPCB/State Pollution Control Board, Central Electricity Authority (CEA)/Local Bodies and other licensing authorities, wherever required.

#### 1.6 RATES

- 1.6.1 The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works contract tax), duties and levies and all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary constructional storage, risks, overhead charges, general liabilities/obligations etc. but exclusive of service Tax, which shall be reimbursed on production of documentary proof of actual payment against this contract/work.

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1.6.2 Octroi exemption certificate will be issued by the department if, required by the contractor. However, the department is not liable to reimburse the octroi duty in case exemption certificate are not honoured by the concerned authorities.

1.6.3 The contractor has to carry out routine and preventive maintenance, as per manufacturer's standards practice for a period of 12 months from the date of handing over. However, all consumables (fuel/lube oil etc.) including filters will be supplied by the department.

#### 1.7 POWER SUPPLY AND WATER SUPPLY

##### 1.7.1 Power Supply

(i) This shall be arranged by the contractor.

##### 1.7.2 Water Supply

Water supply shall be made available to the contractor by the Department free of charge at one point.

#### 1.8 MACHINERY FOR ERECTION

All tools and tackles required for unloading/handling of equipments and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.

#### 1.9 COMPLETENESS OF THE TENDER, SUBMISSION OF PROGRAMME, APPROVAL OF DRAWINGS AND COMMENCEMENT OF WORK

##### (i) Completeness of the tender

All sundry equipments, fittings, assemblies, accessories, hardware items, foundation bolts, supports, termination lugs for electrical connections, cable glands, junction boxes and all other sundry items for proper assembly and installation of the various equipments and components of the work shall be deemed to have been included in the tender, irrespective of the fact that whether such items are specifically mentioned in tender documents or not.

##### (ii) SUBMISSION OF PROGRAMME

Within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-Charge.

##### SUBMISSION OF DRAWINGS

The contractor shall submit the drawings to the Engineer-in-Charge, as per clause 1.19 of this specification for approval before start of work.

##### (iii) COMMENCEMENT OF WORK

The contractor shall commence work, as soon as the drawings submitted by him are approved. The drawings are to be submitted by the contractor within 15 days of stipulated date of start, and shall be approved by the Engineer-in-Charge within 10 days of receipt in his office.

#### 1.10 DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY

The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge. Suitable lockable storage accommodation shall be made available free of charge temporary. Watch & Ward however, shall be the responsibility of contractor. Programme of dispatch of material shall be framed keeping in view the building progress. Safe custody of all equipment/items supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

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### 1.11 INDEMNITY

The successful tenderer shall at all times indemnify the department, consequent on this work contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from on the department during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.

### 1.12 QUALITY OF MATERIAL AND WORKMANSHIP

- (i) The components of the installation shall be of such designed so as to satisfactorily function under all conditions of operation.
- (ii) The entire work manufacturer/fabrication, assembly and installation shall conform to sound engineering practice. The entire installation shall be such as to cause minimum transmission of noise and vibration to the building structure.
- (ii) All equipment and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and prompt after sales service.

### 1.13 INSPECTION AND TESTING

#### 1.13.1 Testing at OEM/manufacturer premises

1.13.2 Testing of DG sets shall necessarily be carried out at factory/manufacturer premises in presence of representative of the Department.

1.13.2.2 For testing, following procedure will be followed: All major items/equipments i. e. engine & alternator in assembled condition, associated electrical control panels etc. shall be offered for inspection and testing at factory/manufacturers work in India. The successful tenderer shall give a notice of minimum two weeks for carrying out such test. The Engineer-in-charge/or his authorized representative shall witness such inspection & testing at mutually agreed date. The cost of the representative's visit to the factory will be borne by the Department.

1.13.2.3 The department also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make arrangements for the same.

1.13.2.4 D.G. set will be tested on load of unity power factor for the rated KW rating. During testing, each of the D.G. sets covered under scope of work, shall be operated for a period of 12 hours on the rated KW at DG. Set's KW rating including one hour on 10% overload after continuous run of the 12 hours. During testing all controls/operational safeties will be checked and proper record will be maintained. Any Defect/abnormality noticed during testing shall be rectified. The testing will be declared successful only when no abnormality/failure is noticed during the testing. The D.G. set will be cleared for dispatch to site only when the testing is declared successful by authorized representative/Engineer-in-Charge. The successful tenderer will arrange staff/fuel/POL for testing of DG set at his cost.

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#### 1.13.2.5 TRIAL RUN

After successful testing of the DG set, a trial run at available load will be carried out for 120 Hours or 15 Days, whichever is earlier. The DG set will be operated and a log of all relevant parameters will be maintained during this period. The arrangement of staff for trial run/running in period will be made by the successful tenderer. However, diesel shall be provided by Department. The contractor will be free to carry out necessary adjustments. The DG set will be said to have successfully completed the trial run, if no break-down or abnormal/unsatisfactory operation of any component of the entire installation included in the scope of work of the contract, occurs during this period. After this the DG set will be made available for beneficial use. After the DG set has operated without any major break-down/trouble, it shall be taken over by the department, subject to guarantee clause of the contract. This date of taking over of the DG set, after trouble free operation during the trial run/running-in period, shall be the date of acceptance/taking over.

#### 1.13.5 SAFETY MEASURES

All equipments shall incorporate suitable safety provisions to ensure safety of the operating personnel, as per manufacturers' standard practice.

#### 1.14 STATUTORY CLEARANCE(S)

Approval/clearance of the complete installation shall be obtained by the contractor from CPCB/State Pollution Control Boards/Local Bodies/Central Electricity Authority (CEA)/other licensing authorities wherever required. However, application shall be made by Department and any statutory fee, as applicable, shall be paid by Department directly to the Govt. authorities concerned.

#### 1.15 GUARANTEE

All equipments shall be guaranteed, against unsatisfactory performance and /or breakdown due to defective design, workmanship or material, for a period of 12 months from the date of taking over the installation by the department. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-charge. In case it is felt by the department that undue delay is being caused by the contractor in attending the defect/fault removed, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-Charge in this regard shall be final.

#### 1.18 PAYMENT TERMS

1.18.1 The following percentage of contract rates shall be payable against the stages of work shown herein:

Stage of work	Engine-Alternator Set & AMF Panel	All other items
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I	After initial inspection (wherever specified) & delivery at site in good condition on pro-rata basis	85%	75%
II	On completion of pro-rata installation	10%	20%
III	On commissioning and completion of successful running in period & taking over of the D.G. set by the department.	5%	5%

## 1.19 TENDER DRAWINGS, DRAWINGS FOR APPROVAL & COMPLETION DRAWINGS

### 1.19.1 TENDER DRAWINGS

The drawings appended with the tender documents are intended to show space allotted for various equipments. The equipments offered shall be suitable for installation in the spaces shown in these drawings.

### 1.19.2 TENDER DRAWINGS

The contractor shall prepare & submit three sets of following drawings and get them approved from the Engineer-in-charge before the start of the work. The approval of drawings, however does not absolve the contractor not to supply the equipments/materials, as per agreement, if there is any contradiction between the approved drawings and agreement.


- Lay out drawings of the equipments to be installed including control cables, fuel/lube oil pipes and supports/structure for exhaust piping, Chimney and bus duct/cable trays.
- Drawings including section, showing the details of erection of entire equipments.
- Electrical wiring diagrams from engine-alternator set to Electrical control panel. Electrical control panel to essential LT board including the sizes and capacities of the various electrical/control cables and equipment.
- Dimensioned drawings of acoustic enclosure/Engine-Alternator set and electrical control panel.
- Drawings showing details of supports for pipes, chimney cable trays, ducts etc.
- Any other drawings relevant to the work.

### 1.19.2.1 DRAWINGS/DOCUMENTS TO BE FURNISHED ON COMPLETION OF INSTALLATION.

Two sets of the following laminated drawings shall be submitted by the contractor while handing over the installation to the Department. One set shall be laminated on a hard base for display in the DG. Set room /room, where AMF panel is installed and another set shall be displayed in Junior Engineer's room. In addition, drawings will be given on Compact Disc (CD).

- DG set installation drawings giving complete details of all the equipments, including their foundations.

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- (b) Line diagram and layout of all electrical control/AMF panels giving switchgear rating and their disposition, cable feeder sizes and their layout.
- (c) Control wiring drawings with all control components and sequence of operations to explain the operation of control circuits in AMF panel/PCC.

1.19.2.2.1 (i) Dimensioned drawings of acoustic enclosure/Engine-Alternator set and electrical control panel.

(ii) Operation and maintenance manual of all major equipments, detailing all adjustments, operation and maintenance procedure.

1.20

#### AFTER SALES SERVICES

The contractor shall ensure adequate and prompt after sales service free of cost during guarantee period, and against payment after the guarantee period is over, in the form of maintenance, spares and personnel, as and when required during normal life span of the equipments and shall minimize the breakdown period. In case of equipment supplied by other manufacturers, the contractor shall furnish a guarantee from the manufacturer for the same before the DG set installation is taken over.

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## TERMS AND CONDITIONS FOR LIFT AND ESCALATOR

- 1.0 All the works shall be carried out, as per CPWD General specification for Electrical Works, Part-I (Internal-2013); Part-II (External) and Part-III (Lifts & Escalators)-2003, amended up to date and should also comply with relevant provisions of the Indian Electricity Rules and Acts as applicable, amended up to date.
- 2.0 The contractor is advised to visit the site of work to have an idea of the execution of the work; failure to do so shall not absolve their responsibility to do the work, as specified in agreement.
- 3.0 **Taxes and Duties:**  
Being an indivisible works contract, Sales Tax, Excise Duty etc, are not payable separately. The works contract tax shall be deducted from the bills of the contractor, as applicable in the State in which the work is carried out, at the time of payments.
- 4.0 **Completeness of Tender:**  
All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.
- 5.0 **Inspection and Testing**  
For item/equipment requiring initial inspection at manufacturer's works, the contractor will intimate the date of testing of equipments at the manufacturer's works before dispatch. The department also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make the arrangement for the same. The successful tenderer shall provide sufficient advance notice regarding the dates proposed for such tests/inspection to the department's representative(s) to facilities his presence during testing/fabrication. The Engineer-in-Charge at his discretion may witness such testing/fabrication. The cost of the Engineer's visit to the factory will be borne by the Department. Also equipment may be inspected at the manufacturer's premises, before dispatch to the site by the contractor.
- 6 **Works to be done by the contractor:**
- 6.1 All minor building work necessary for installation of equipment such as making of opening in walls/floors, either of RCC or brick masonry etc., and restoring them to original condition and finish. The scope of minor building work includes all grouting of foundation concrete pads to be formed or made as base for supporting R.S. joists etc., grouting and anchoring of all boards clamps, supports, foundation bolts, installation in position of R.S. joists in the machine room, lift well or in the pit. Such works shall exclude cutting of marble work and construction of partition wall wherever involved.
- 6.2 Supply of necessary R.S. joists or angle iron supports brackets etc. for installation of the lift, either in the machine room or at other places, as may be necessary including their installation in position.
- 6.3 All electrical works except bringing in main connection and earth connection to the machine room terminated on suitable switch fuse unit/board. All electrical including inter-connection from this switch/board and loop earthing from the earth bar to be provided in the machine room shall be done by the successful contractor.
- 6.4 Responsibility to ensure safety of lift materials against pilferage and damage, till the installation is handed over to the consignee.
- 6.5 All scaffolding, as may be necessary in the lift well during erection work may be provided and subsequently it may be removed.

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- 6.6 Temporary barricades with caution boards at each landing to prevent accident during execution of work.
- 6.7 Supply and installation of landing fascia plates made of steel, car apron plates, sill support angels with necessary clamps, foundation bolts supports etc., as are necessary in connection with the installation of the lift.
- 6.8 Steel ladder to be provided for access to lift pit, wherever required under regulations.

**7.0 Storage and Custody of Materials:**

The Lift machine room may be used for storage of sundry material and erection material, if available or else agency has to make his own arrangement. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.

**8 Tools for handling and Erecting:**

All tools and tackles required for handling of equipments and materials at site of work, as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.

**9.0 PAYMENT TERMS**

- i) The following percentage of contract rates shall be payable against the stage of work shown herein:-

Stage of work		Lift with Associated Materials
I	After initial inspection(whenever specified) & delivery at site in good condition on pro-rata basis	80%
II	On completion of pro-rata installation	10%
III	On commissioning and completion of successful installation of Lifts, panels, other misc. work and taking over by the department.	10%

**1.0 After Award of work:**

- (i) The successful tenderer would be required to submit the following drawings within a month of award of work for approval & commencement of installation:-

- (a) All general arrangement drawings.
- (b) Details of foundations for the equipment, load data. Location etc. of various assembled equipment, as may be needed generally by other agencies for purpose of their work. The data will include breaking load on guides, reaction of buffers on lift pits, reaction on support points in machine room, lift well etc.
- (c) Complete layout dimensions for every unit/group of units with dimensions required for erection purposes.
- (d) Any other drawing/information not specifically mentioned above but deemed to be necessary for the job by the contractor.

**2. Compliance with Regulations and Indian standards**

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2.0 All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specifications. In particulars, the equipment and installation will comply with the following:-

- (i) Factories Act.
- (ii) Indian Electricity Rules.
- (iii) I.S. & BS Standards, as applicable.
- (iv) Workmen's compensation Act.
- (v) Statutory norms prescribed by local bodies like CEA, NDMC etc.

2.1 Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

2.2 Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and department requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tenderer liable for penalty of Rs. 50/- for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

### 3. Indemnity

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period or erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance, as may be necessary to cover the risk. No extra payment would be made to the successful tenderer due to the above.

### 4. Cooperation with other agencies

The successful tender shall co-ordinate with other contractors and agencies engaged in the construction of building, if any, and exchange freely all technical information, so as to make the execution of this works contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the successful tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the successful tenderer himself.

### 5. Mobilization Advance

No mobilization advance shall be paid for this work.

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15. **Insurance and Storage**

All consignments are to be duly insured upto the destination from warehouse to warehouse at the cost of the supplier. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.

16. **Verification of correctness of equipment at Destination**

The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufacturers has been supplied and erected.

17. **Painting**

This shall include cost of painting of entire exposed iron work complete in the installation. All equipments works shall be painted at the works, before dispatch to the site.

18. **Training**

The scope of works includes on job technical training of two persons at site. Nothing extra shall be payable on this account.

18 **Maintenance**

18.1 Sufficient trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation.

18.2 The maintenance, routine as well as preventive for one year from the date of taking over the installation, as per manufacturers recommendation shall be carried out and the record of the same shall have to be maintained.

19 **Interpreting Specifications**

In interpreting the specifications, the following order of decreasing importance shall be followed in case contradictions:

- Schedule of quantities
- Technical specifications
- Drawing (if any)
- General specifications
- Relevant IS or other international code, if IS code is not available

20 **General requirements of components:**

**Quality of material:** All materials and equipments supplied by the contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to with stand the environmental conditions at site.

21 **Inspection and Testing :**

- Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the engineer in charge and consignee.
- After completion of work in all respect, the contractor shall offer the installation for testing and operation.
- Adequate care to ensure that only tested and genuine materials of proper quality are used in work shall be ensured by firm. The firm shall ensure that:

- Material will be ordered & delivered at site only with the prior approval of the department to ensure timely delivery.
- As and when the order is placed for the Materials etc, its copy shall be endorsed to the Engineer-in-charge of the work.
- Delivery of material shall be taken up only with the consent of department.

- Similarly for fabricated equipments, the contractor will first submit dimensional detailed drawings for approval before fabrication is taken up in the factory. Suitable stage of

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inspection at factory will be made to ensure proper use of materials, workmanship and quality control.

## 22 Extent of work

- The work shall comprise of entire labour including supervision and all material necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract.
- Minor building works necessary for installation of equipment, foundation, making of opening in walls or in floors and restoring to their original condition, finish and necessary grouting etc. as required.
- Maintenance (Routine & Preventive) for one year from date of completion and handing over.
- The work is turnkey project. Any item required for completion of the project but left inadvertently shall be executed with in the quoted rates.

## 23 Ratings of components:

- All components in a wiring installation shall be of appropriate ratings of voltage, current and frequency, as required at the respective sections of the electrical installations in which they are used.
- All conductors, switches and accessories shall be of such size, as to be capable of carrying the maximum current, which will normally flow through them, without their respective ratings being exceeded.


## 24 Conformity to standards:

- All components shall conform to relevant Indian Standard Specifications wherever existing. Materials with ISI certification mark shall be preferred.
- Relevant Indian Standards including amendments or revisions thereof up to the date of tender acceptance shall be applicable in the respective contracts for respective items, firm to ensure its compliance.

## 25 Workmanship:

- Good workmanship is an essential requirement to be complied with. The entire work of manufacture/ fabrication, assembly and installation shall conform to sound engineering practice.
- Proper supervision/skilled workmen: The contractor shall be a licensed electrical contractor of appropriate class suitable for execution of the electrical work. He shall engage suitably/ skilled/licensed workmen of various categories for execution of work supervised by supervisors & Engineer of appropriate qualification and experience to ensure proper execution of work. They will carry out instruction of Engineer-in-charge and other senior officers of the Department during the progress of work.
- Use of quality materials: Only quality materials of reputed make, as specified in the tender will be used in work.
- Fabrication in reputed workshop: Switch boards and LT panels shall be fabricated in a factory/workshop having modern facilities like quality fabrication, seven tank process, powder/epoxy paint plant, proper testing facilities, manned by qualified technical personnel. These shall be as per make / item approved.

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**26 Testing:**

All testes prescribed in General Specification, to be done before, during and after installation, shall be carried out, and the test results shall be submitted to the Engineer-in-charge in prescribed Performa, forming part of the Completion Certificate.

**27 Guarantee**

- a. The installation will be handed over to the department after necessary testing and commissioning. The installation will be guaranteed against any defective design/workmanship. Similarly, the materials supplied by the contractor will be guaranteed against any manufacturing defect, inferior quality. The guarantee period will be for a period of 12 months from the date of handing over to the department. Installation/ equipments or components thereof shall be rectified/ repaired to the satisfaction of the Engineer-in-charge.

**28 COMPLITION PERIOD**

The period of completion of entire work is 8 months, the comprehensive maintenance of lifts shall start after completion of all lifts work by the firm and final taking over by the departments. Lifts are not taken in parts. The firms are advised to quote their rates accordingly.

- 29 A separate supplementary agreement shall be drawn with the firm after completion of main work for comprehensive maintenance of lifts. 50% of performance guarantee shall be retained as security deposit and the same shall be refunded year wise proportionately.

**30 CONDITIONS FOR COMPREHENSIVE MAINTENANCE**

The firm will have to deploy the services of Engineer/Technician duly certified by the Company to have received training of the maintenance aspect of the lift for the Comprehensive maintenance period from the date of handing over on call basis.

**31 RESPONSIBILITY OF THE FIRM DURING COMPREHENSIVE MAINTENANCE AS WELL AS GUARANTEE PERIOD:**

- a. To attend all routine complaint within 24 hours failing which a recovery of Rs. 1000/- per day shall be made by the department.
- b. To replace all parts including batteries whether due to Wear & Tear, breakdown, or due to its life being over or any other reason to maintain lift in healthy working order.
- c. Ensure availability of spare parts.
- d. Submit comprehensive maintenance schedule on completion of site job and perform maintenance according to schedule.

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## TERMS AND CONDITIONS FOR HVAC WORKS

1. The Work has to be carried out, as per CPWD General Specifications for Air Conditioning work, as amended up to date and as per the directions of Engineer-in-charge.
2. No T & P shall be issued to the contractor by the department.
3. All the materials used at site shall be got approved from the Engineer-in-charge before use at site.
4. Work has to be carried out in most professional and skillful manner, bad workmanship will not be accepted.
5. Any damage to the existing Building/Wall during execution of work will be responsibility of the Contractor and the same shall be made good by the contractor without any extra cost.
6. Any accident/mishappening to the working staff/ or any person shall be the responsibility of the contractor. Department will not be responsible for Compensation. So Contractor has to make all the safety measures during execution of Work.
7. Contractor has to depute qualified staff, and they should well conversant with the work.
8. Work has to be carried out, as per the convenience of client department. Nothing extra will be paid on account of Ideal labour/wastage of labour, hence the contractor has to quote their rates accordingly.
9. All the Refrigerant piping joints has to be brazed properly to make it leak proof Joint.
10. Refrigerant piping should be properly insulated with nitrile Insulation so far as possible should be made in recess or on cable tray for esthetic look of the wall of Corridor.
11. All Inlet & Outlet connections of outdoor/Indoor units made with brazing connections & leak proof joint.
12. Complete system has to be tested with Nitrogen pressure for 24 Hours before charging of Gas.
13. Intending tenderer will provide one year warranty for Window/Split type air conditioner unit for satisfactory working, as per manufacturer standard practice.
14. The dismantled material (as specified in SOQ) shall be taken away by the contractor, for which necessary credit has been made in the SOQ and other dismantled material (not specified in SOQ) shall be deposited at JE(E) Store for which nothing extra shall be paid towards cartage charges.

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# 15. Terms of Payment :-

The following percentage of contract rates shall be payable against the stages of work shown therein:

S.No.	Stage of work	Air Conditioner Unit
i)	After initial inspection (wherever specified) and delivery at site in good condition on pro-rata basis	80%
ii)	On completion of pro-rata installation	10%
iii)	On testing, commissioning and handing over	10%

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## TECHNICAL SPECIFICATION FOR FIRE ALARM SYSTEM

### SECTION - 1

#### SCOPE OF WORK

- 1 The works shall be executed, as per CPWD's General specification for Electrical Works, Part-I (Internal-2013); Part-II (External)-1995; Part-V (Wet Riser and Sprinkler System for Fire Fighting Installation)-2006, IE Rules, Indian Standards, as amended up to date and as per direction of Engineer-in-Charge. The additional specifications are to be read with above and in case of any variations; specifications given along with the tender shall apply.

### TECHNICAL SPECIFICATIONS FOR FIRE DETECTION SYSTEM

#### Basis of Design

An Intelligent Fire Alarm System herein after known as (IFAS) shall be provided to effect total control over the life safety services required in the building. The IFAS shall be of the digital, distributed processing, real time, multitasking, multi user and multi-location type.

The system shall be provided with Addressable and Analog fire alarm initiating, annunciating and control devices.

The addressable and intelligent system shall be such that smoke sensors, thermal sensors, manual pull stations etc. can be identified with point address. The system shall be capable of:

- a. Setting smoke sensor sensitivity remotely to either high sensitivity manually or on a pre-programmed sequence e.g. occupied / unoccupied period. The IFAS shall be able to recognize normal and alarm values that reveal trouble condition, and above normal values that indicate either a pre alarm condition or the need of maintenance.
- b. Read-out or address at actual space temperature at thermal detector points. The operator shall also be able to adjust alarm and pre alarm thresholds and other parameters for the smoke sensors.
- c. Provide a maintenance / pre-alert alarm capability at smoke sensors to prevent the detectors from indicating a false alarm due to dust, dirt etc.
- d. Provide alarm verification of individual smoke sensors. Alarm verification shall be printed on the printer at the control station's printer to enhance system maintenance and identify possible problem areas.
- e. Provide local numeric point address and LED display of the device and current condition of the point. Local annunciation shall not interfere with annunciation from the Fire Control System.
- f. Provide outputs that are addressable, i.e. outputs shall have point address. The operator shall be able to command such points manually or assign the points to logical point groups (Software Zones) for pre-programmed operation.

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In the event of fire alarm, but not in a fault condition, the following action shall be performed automatically.

- a. The System Alarm LED on the main fire alarm control panel shall flash
  - b. A local electric sounder shall be sounded.
  - c. The LCD display on the main fire alarm control panel shall indicate all information associated with Fire Alarm condition including the type of alarm point and its location within the premises.
  - d. Printing the information associated with the Fire Alarm Control Panel condition, along with the time and date of occurrence.
  - e. Air handling units on the affected floors shall automatically be switched OFF and simultaneously respective fire dampers shall also be closed.
  - f. Pressurization fans on the evacuation shafts i.e. Stairwells etc. will automatically be switched ON.
  - g. All system output programs assigned via control-by-event programs that are to be activated by a particular point in alarm shall be executed, and the associated system output (alarm notification appliances and/or relays) shall be activated.
  - h. The audio portion of the system shall direct the proper signal (tone or voice) to the appropriate speaker circuit.
  - i. Pre-recorded alarm messages shall be played on the public address system.
- 1. Fire Alarm Control Panel**
- 1.1 The Fire Alarm Control Panels shall function both as an independent stand alone system element, as well as an interface between the control processing unit and the fire detectors, their accessories and the controlled devices. The control panel shall be intelligent type with its own microcomputer and memory. It shall be powered with high efficiency SMPS.
  - 1.2 The Fire Alarm Panels shall be microprocessor based and shall have necessary detector interface units (for both addressable and non-addressable sensors), alarm output modules for external hooter & lamp control output modules for various control functions through relay contacts and communication modules for interfacing with the outside world. The processor shall interact with the other modules through a common bus. The system shall store all basic system functionality and job specific data in non-volatile memory. All site specific and operating data shall survive a complete power failure intact. Password shall protect any changes to system operations.
  - 1.3 The Fire Alarm Panels shall have the facility to process the Input Signals and control the output functions either directly or through I/O Interface Modules as per the requirements.
  - 1.4 The Fire Alarm Panels shall continuously scan the various loops for conditions of Fire, Fault (Open circuit as well as short circuit) and provide audio-visual Alarm and Messages as the case may be. Each loop shall be capable for connecting minimum 125 addressable units (125 detectors and 125 devices) with minimum 10% spare capacity for detectors.

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- 1.5 System circuits shall be configured as follows: Addressable analog loops class 'A'; initiating devices, circuits, class 'A'; Notification appliance circuits Class A; Network communication A. Annunciates Communication 'A'. Any deviation in the style of wiring shall be with prior permission of the Engineer-in-charge.
- 1.6 The Fire Alarm Panel shall be protected against any kind of short circuit, open circuit, over voltage and under voltage. In case of any abnormality, the system shall display appropriate message. The panel should have a CPU watch dog circuit to indicate trouble should the CPU fail.
- 1.7 The system should perform Fire Pattern Recognition. For this purpose, it shall offer the following features:
- Smoke entering a detector for a short duration (e.g. cigarette smoke) shall not cause any alarm.
  - A fast build up of smoke shall result in quick alarm generation.
  - A gradual build up of smoke shall be detected early by reducing the pre-warning limit automatically (without disturbing the alarm level).
  - A slow build up of dirt in detectors shall be recognized and the alarm level shall be suitably modified without generating any false alarms. For this purpose, the Fire alarm Panels shall have necessary Hardware and Software filters, details of which must be submitted by the tenderer in the technical bid.
  - The system shall have detector sensitivity test feature, which will be a function of the smoke detectors and perform automatically every four hours.
- 1.8 The Fire Alarm Panels shall have the under mentioned additional features:
- Logging an alarm, time and action text on printer.
  - Status check of disabled alarm addresses before they are restored.
  - Storing of alarms and the possibility of internal organization of alarms.
- 1.9 Offered Fire Alarm Panel shall have high degree of flexibility with:
- The possibility of expanding to a bigger system with several control panels, and control and information units.
  - Programmable actuation of control output relays for tripping ventilators, closing of fire doors, closing of fire dampers, etc. in case of fire. The system shall also provide a manual over-riding facility to operate/de-activate the above.
  - Connection to addressable as well as non-addressable (Conventional) Detectors, Manual call station, etc.
- 1.10 The panel shall offer an event log that records a minimum of 1000 events to be displayed on a touch screen, LCD or panel programming software.
- 1.11 For reasons of reliability and preventing inadvertent changes, the software / database shall be maintained in Non-volatile Memory. It shall be possible to reprogram the software by authorized personnel only. Fire Alarm Panel shall provide Access Protection via Password (multilevel). Hard-ware protection shall be via a security lock and key arrangement.

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- 1.12 Offered Fire Alarm Panels shall automatically scan the whole system and confirm the user entered configuration. It shall also generate the appropriate messages.
- 1.13 System should check up all the detectors periodically (by scanning) for the sensitivity of the detectors. Whenever any detector sensitivity goes down due to/ soiling or dust accumulation it should provide the required biasing to bring the detector's sensitivity upto the required level. In case any detector goes below the minimum sensitivity level, it should issue a warning tone for cleaning the detector manually. Therefore each analog detector shall be monitored for maintenance alert.
- 1.14 The system shall support distributed processor intelligent detectors with the following operational attributes; integral multiple differential sensors, automatic device mapping, environmental compensation, pre alarm, dirty detector identification, automatic day/night sensitivity adjustment, normal / alarm LEDs, relay bases, sounder bases and isolator bases.
- 1.15 The Fire Alarm Control Panels shall be of multiplex system using distributed memory, processing and control configured in regenerative network using a Master network controller and various field panels and remote controllers. These regenerative networks shall be capable of generating critical system functions in the event of Master network controller fails or data line is severed. The network upon failure of these shall sense the missing remote controllers or field panels and regenerate itself into a system or system dependent upon the remaining hardware. Each segment that has been regenerated shall be a full operating system capable of passing individual device or zone information to or from any remote field panel for operation of appropriate output devices and events. All Fire alarm control panels will be peer to peer networked with each other.
- 1.16 The Fire Control Panel shall be equipped with integrated fire fighters telephone system which shall automatically dial one or more programmed fire fighter's telephone numbers and convey pre-programmed messages in the event of fire in any of the zone. The fire panel should have a Dialer Alarm Communicator Transmitter (DACT) module to transmit alarm, supervisory and trouble signal to a Central Monitoring Station (CMS). The DACT shall support dual telephone lines, 20 pps 4/2 communication and configured for Dual Tone Multi-Frequency (DTMF) or pulse modes.
- 1.17 Indications as mentioned hereunder shall be available on the Fire Alarm Panels.
  - a) RED and AMBER high power LED to indicate any zone on fire and fault respectively. Zone number and the area should be displayed on 6" user friendly touch screen display / 640 characters LCD display on the control panel. Nature of fault shall also be indicated on the LCD display. The main LCD panel and operator console shall be in modular form and the same should be used as a repeater panel thus enabling full featured remote operation of the fire alarm system.
  - b) Mains-on (Green). In case of mains failure, SYSTEM ON BATTERY LIGHT (AMBER) should come up.
  - c) Battery under voltage should be indicated by flashing RED LED with 1 KHz. broken audio signal.
  - d) Other indications as per system design.
  - e) It should have the facility of for the connection of printer.
- 1.18 Matrix type connected printer should provide real time recording of all the system operations. In addition to the above, it should be able to provide Hard Copy of reports, system serviceability and faults etc. on demand.
- 1.19 The system on demand shall provide analog detector sensitivity report. The system shall also provide history report of verification cycles per detector and the system status reports of detector analog reading both on computer and VDU as well as in the form of hard copy through the printer.

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- ## 1.24 Digital Voice Command Center

- ## 1.25 Addressable Digital Audio Amplifiers

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- Amplifier Address Selection Switches
  - Signal Silence of communication loss annunciation Reset
  - Level adjustment for background music
  - Enable/Disable for Earth Fault detection
  - Switch for 2-wire/4-wire FFT riser
5. Adjustment of the correct audio level for the amplifier shall not require any special tools or test equipment.
  6. Includes audio input and amplified output supervision, back up input, and automatic switch over function, (if primary amplifier should fail).
  7. System shall be capable of backing up digital amplifiers.
- 1.26 Audio Message Generator (Prerecorded Voice)/Speaker Control:**
1. Each initiating zone or intelligent device shall interface with an emergency voice communication system capable of transmitting a prerecorded voice message to all speakers in the building.
  2. Actuation of any alarm initiating device shall cause a prerecorded message to sound over the speakers. The message shall be repeated. Pre- and post-message tones shall be supported.
  3. A built-in microphone shall be provided to allow paging through speaker circuits.
  4. System paging from emergency telephone circuits shall be supported.
  5. The audio message generator shall have the following indicators and controls to allow for proper operator understanding and control:
- 1.27 Fire Fighters' Telephone System:** The Fire Alarm system shall provide a fully integrated Fire Fighters' Emergency Telephone and Communications System. A Master Telephone handset shall be provided which will provide a totally independent 2-way communication between the Fire Alarm Control Panel and any of the Fire Fighters' Telephone Stations located as indicated on the plans for the building. The Fire Fighters' Telephone System shall include individual LEDs and switches per telephone station. The user shall connect a call by pressing the 'connect' switch. To terminate a call, the operator shall press the 'disconnect' switch.
- 1.28 Programmable Electronic Sounders:**  
Electronic sounders shall operate on 24 VDC nominal.  
Electronic sounders shall be field programmable without the use of special tools, at a sound level of at least 90 dBA measured at 10 feet from the device.  
Shall be flush or surface mounted as shown on plans.
- 2. DETECTORS AND ADDRESSABLE DEVICES**
- 2.1 General Features common to all detectors :**
- a. Detector shall have an integral microprocessor capable of storing fire parameters information in the detector head. Distributed intelligence shall improve response time by decreasing the data flow between detector and analog loop controller. Maximum total analog loop response time for detectors changing state shall be 5 seconds. The addressable detectors shall be designed to detect one or more characteristics of fire, light smoke or heat. The prime function of an addressable detector shall be to detect a fire in its early stages by one of its characteristic phenomena, both visual and invisible and convert the same into an electrical signal for initiating the local and remote alarm.
  - b. The addressable detectors shall be suitable for column / ceiling mounting.
  - c. The detector shall be suitable for class A (ring main) preferable or Class B (Non ring main) wiring.

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- d. The detectors shall be plug-in type and shall have common base.
- e. An indicator LED shall be provided on the detector which illuminates when the detector has reached a preset alarm level. The indicator shall be operated independently of the detector from the central control panel.
- f. Provision shall be made for an output from the detector suitable for operating a remote indicator or other device with a current limitation of 4 milli-amps. The output shall be operated independently of the smoke detector from the central control panel.
- g. Separate mounting bases shall be required which enable ready removal of detectors for maintenance. The bases shall be fitted with stainless steel terminal springs and stainless steel terminal screws and saddles.
- h. The construction of the detector and bases shall be in white self-extinguishing polycarbonate plastic. Full circuitry must be protected against moisture and fungus. Smoke entry points must be protected against dust and insect ingress by corrosion resistant gauze. The detectors must be unobtrusive when installed.
- i. Data transmissions to and from the fire control panel from the detector shall be via a communications module which is factory fitted to a detector by the original detector manufacturer and forms a complete and integral part of the detector.
- j. The detector shall be supplied complete, fully tested and each should bear the serial no. and seal of the approving laboratory/body.
- k. The detector shall be capable of automatic electronic addressing/custom addressing with/without the use of DIP or rotary switches.
- l. There shall be facility on the mounting base for writing in indelible ink the address of that base. The address code shall be obscured from sight when detector is fitted to the base.
- m. The build-up of dirt or similar contamination on the radio-active source will cause the output signal from the detector to gradually change. The control panel shall be capable of monitoring this slow change in signal and at a predetermined level indicate that the detector is in need of servicing.

**A Addressable Multi Sensor Smoke Detectors**

- a. The mutisensor or multitech smoke detector which will have both photoelectric as well as thermal detection elements shall have inbuilt microprocessor, not microcontroller, and shall be capable of taking an independent alarm decision.
- b. The detector shall be capable of being addressed electronically or manually by dip, rotary or decade switches.
- c. Each intelligent addressable smoke detectors sensitivity shall be capable of being programmed electronically as: most sensitive, more sensitive, normal, less sensitive or least sensitive.
- d. The detector should continue to give TRUE alarms even if the loop controller on the main panel fails.
- e. Alarm condition shall be based upon the combined input from the photoelectric and thermal detection elements.
- f. Each detector shall be capable of transmitting pre-alarm and alarm signals in addition to the normal, trouble and need cleaning information. It shall be possible to program control panel activity to each level.
- g. Each detector microprocessor shall contain an environmental compensation algorithm that identifies and sets ambient "environmental thresholds approximately six times an hour.

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- h. The microprocessor shall monitor the environmental compensation value and alert the system operator when the detector approaches 75% and 100% of the allowable environmental compensation value.


## 2.2 Plug-in Bases

- The detectors of all types shall fit into a common type of standard base.
- Once a base has been installed, it shall be possible to insert, remove and exchange different types of detectors by a simple push twist movement.
- The standard base shall be equipped with screw less wiring terminals capable of securing wire sizes upto 1 .5 sq .mm (SWG 15) and with built in strain limits to prevent permanent terminals deformation and weakening of contact pressure.
- The standard base shall be supplied with a sealing plate, preventing dirt, dust, condensation or water from the conduit reaching the wire terminals or the detector contact points.
- All standard bases shall be supplied with a removable dust cover to protect the contact area during installation and construction phase of the building. It must allow the inspection and verification of the zone wiring before insertion of any detectors.
- The standard base shall feature a built-in mechanism, which allows mechanical locking of any installed detector head, thus preventing unauthorized removal of tampering while maintaining.
- The detector contact points shall be designed to retain the detector safety and to ensure uninterrupted contact also when exposed to continuous severe vibrations.
- All electronic components of bases and modules must be solid state and virtually hermetically sealed to prevent their operations from being impaired by dust, dirt or humidity.
- All circuitry must be protected against usual electrical transients and electromagnetic interference.
- The standard base shall allow Snap-On insertion of an (optional) electronic module to drive remote visual alarm indicators.
- Reversed polarity or faulty zone wiring shall not damage the detectors.
- Bases shall be of the same make as that of the detector supplied.

## 2.3 Addressable Manual Call Station

- Manual call stations shall be addressable and electrically compatible with standard range of automatic detectors so that it can be connected directly into supervised loop of the standard range of control units.
- The manual call station shall be of pleasant, streamlined and flat appearance permitting its use as flush and surface mounted unit as per site conditions.
- The Manual call station shall consist of the base plate insert and cover with break glass type.
- The cover must be secured against unauthorized removal. Every removal of the cover must release an alarm.
- All inscriptions, texts and marks must be on the manual call station front plate.
- The glass must be secured in the cover against falling out.
- The manual call station shall be designed for fail safe operation.
- The manual pull station may have a built in LED, lighting up automatically to confirm its actuation.
- Specifications:
  - Type: Addressable with rotary switch or dip switch or electronic addressing.
  - Address device: Electronics.
  - Alarm device: Break Glass Type / Two Stage Pull Station.

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d) Out put signal: Red.

## 2.4 Addressable Control Modules.

1. For monitored control of an AHU/extinguishing system activation of door control units with the option to reset the activated control output from the control panel, with monitoring for short-circuit and interruption. Housing is designed for surface mounting of flush mounting.
2. With modules having multiple outputs the quantities of the modules can be considered according to the no of outputs available.

## 2.5 Speaker

Fire alarm addressable speaker should operate from 24V D.C. and should have a facility to be selected for steady tone and voice output. A moveable jumper provided should have a choice for high (84 dbA) or low (70 dbA) outputs. Speaker cum hooter will be dual transformer speaker capable of operating at 25 and 70.7 Vrms and will have a frequency range of 400 to 4000 Hz. The synchronized speaker should be supplied with "FIRE" (wall orientation) as the standard marking. It should be for indoor installation.

## 2.6 Fire Fighters Telephone Jack

The fire fighter's telephone jack would be a standard receptacle for hooking up the fire fighter's telephone handset. The fire fighter's telephone jack will be complete with an ABS plastic cover plate and would be suitable for flush / surface mounting.

## 2.7 Fault Isolator

- a. The fault isolator device shall detect and isolate a short circuited segment of a fault tolerant loop.
- b. The devices shall automatically determine a return to normal condition of the loop and restore the isolated segment.
- c. Devices shall be placed every 20 detectors / modules / field devices to limit the number lost in the event of short circuit.

## 2.8 SYSTEM SOFTWARE

The software at the core computer shall be based around the industry standard multi-tasking, multi-user operating system, Microsoft Windows NT 4.0. Single user operating systems such as those based on MS-DOS and Microsoft Windows 3.11 will not be acceptable.

Standard services supported by the core system operating system will include the following:

- Multi-tasking Multi-user support
- TCP/IP Network Support
- Graphic Display Building Editor with functionality detailed in Section 5
- Application software with functionality detailed in Section 5

Software at the Operator Station shall comprise of:

- Windows 95 or Windows XP
- Graphic Display Building Editor with functionality detailed in Section 5
- Application software with functionality detailed in Section 5

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- If other software is proposed then suppliers must be able to demonstrate full compliance with Section 5.

The core computer or an alternative network connected computer shall be capable of acting as a File Server for displays and photo images. All LAN connected Operator Stations shall be able to view custom displays and photo images from the core computer.

All system peripherals including security and access panels and printers shall be capable of being connected to the core computer via the LAN.

### 29.1.1.General

#### 29.1.1.1 [Fire Monitoring Controller]

It shall be possible to efficiently monitor dynamic, real time data from any of the above panel types. It shall also be possible to configure hardware and software points from the core computer for each of these panels using a consistent configuration data format across all panel/controller types.

Operator Stations shall be capable of connecting/disconnecting to a fixed set of system core computers on a TCP/IP network.

It shall be possible to interface to different types of devices using an industry standard interface such as MODBUS or Advance DDE from Rockwell Software. This shall allow simple interfaces to proprietary devices to be developed using a standard protocol.

All controller subsystems shall have distributed intelligence. Normal Fire detection and control decisions shall be made at the local panel without reference to the host.

The alarm limits (Night alarm, Night Pre alarm, Day Alarm and Day Pre alarm) for the smoke detectors shall be resident in Fire Controller only but it shall be possible to change it from the central station by an authorized operator.

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## a) Application Software Functions

### 3.1 Operator Interface

#### 3.1.1 General

The operator interface shall be interactive and totally graphics and/or icon based. Graphics shall be capable of supporting up to 65K colors at a minimum of 1024 x 768 pixel resolution.

The operator interface shall be Windows based and shall employ standard windowing conventions so as to reduce required operator training.

The operator interface software shall be capable of running in an environment defined by Windows 95 or Windows NT. The operator interface shall appear identical in all environments.

There shall be at least 1700 displays reserved for user customization. These user configured displays shall be constructed using the integrated display building functions available through the Operator Station.

#### 3.1.2 Status Displays

System status displays shall be available on the main Operator Station. It shall display the following information:

- Total number points in a collection of a certain type in a particular state
- Points in alarm condition pending ACKNOWLEDGE command
- Points which remain in an alarm state but which have been acknowledged
- Communication failures
- Printer status
- Operator Stations status
- Communication channels status
- Controller status
- Dead man Timer status

#### 3.1.3 Administration Displays

The system shall provide the following full screen displays:

- Master system menu
- Report summary
- Alarm summary
- Event summary
- Display summary
- Operator Station configuration
- Area assignment
- Holiday assignment
- History assignment
- Pushbutton assignment
- Operator assignment
- Operator email message page
- Point Detail for every configured Point
- Controller specific database configuration information

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### 3.1.4 Pointing and Input Devices

The operator interface shall be capable of being mouse driven and simultaneously support keyboard data input. Both fixed menus and configurable function keys shall be supported to aid novice and experienced operators respectively. The interface shall also be capable of supporting a touch screen for pointing and command input.

The operator interface shall use a toolbar for common operator commands. The operator shall be able to request display of commonly used displays from Drop-Down menus. Given sufficient level of system privilege, the operator shall be able to customize the Drop Down menus to reference new displays created with the display building tool.

All operator interface input shall be possible using only the pointing device and QWERTY section of the keyboard.

### 3.1.5 Operator Functions

The following functions shall be performed through the operator interface:

- Display and control of field equipment
- Display of and point status
- Acknowledge alarms on a priority basis
- Initiate printing of reports
- Archive and retrieve event logs
- Online generation of database and color graphic displays
- Monitoring of data communications channels
- Configure system parameters

### 3.1.6 MULTIMODE WINDOW SESSIONS

The core computer display unit shall also be capable of supporting multiple concurrent sessions. Each session shall allow an operator to choose between the following different modes:

Master Operator Station Mode:

Normal operator access to the system

Engineering and Maintenance Mode:

System configuration or application programming

Graphics builder Mode:

Display construction using the Graphics Display Building package

It shall be possible for all modes to appear as separate Windows running simultaneously on one screen.

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### 3.1.7 APPLICATIONS LAUNCHER

It shall be possible to launch any Windows application from within the Operator Interface. For example, a button or menu item shall be able to be created in the FMS to launch an application such as Microsoft Word.

### 3.1.8 OPERATOR INTERFACE AS A WEB BROWSER

It shall be possible to use the standard operator interface as a browser for viewing information in HTML format. This allows the operator to view information on the Internet or an Intranet without having to activate an external browser application. This enables the operator to view information in HTML while still monitoring and responding to alarms. The operator interface shall provide a mechanism to restrict access to all or particular URL addresses in order to prevent the viewing of undesirable information. The linking of operator displays to particular URL addresses shall be achieved using the Graphical Display Building Tool.

### 3.1.9 ACTIVE DOCUMENT SUPPORT

It shall be possible to display Active Documents (such as Microsoft Word or Microsoft Excel documents) through the operator interface by incorporating these documents directly onto displays. The linking of displays to Active Documents shall be achieved using the Graphical Display Building Tool.

### 3.1.10 POINT COLLECTION SUMMARY

There shall be an online display of selected points and their current states. It shall be possible to group points together based on common states, areas, controllers or channels and place them in a collection. The total number of all points in a collection shall be displayed along with the number of points in each possible state. An overall summary display shall be provided which shows this information about each point collection.

## 3.2 OPERATOR SECURITY

### 3.2.1 SECURITY LEVELS

The system shall support at least 6 levels of operator security. The functions allowed from each security level shall be as follows:

- Level 1:** View only.
- Level 2:** View only with Acknowledge - The operator shall be able to acknowledge alarms as they occur.
- Level 3:** Permit all Level 1 and 2 functions and in addition the security guard or building manager shall be permitted to control points such as disable/enable, etc.

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- Level 4:** Permit all Level 1 through Level 3 functions in addition to accessing master time schedules, system peripherals allocation, etc. This level shall typically be reserved for the building engineer.
- Level 5:** Permit all Level 1 through Level 4 functions in addition to accessing the engineering functions such as building and linking displays, allocating keyboard push button assignments, etc. reserved for the building supervisor.
- Level 6:** This is the highest level of station security and shall allow the user unlimited access to all station functions. Typically reserved for the building manager and system administrator.

### 3.2.2 SIGN-ON/SIGN-OFF

The guard or operator shall be permitted to sign on to the system if the correct Operator ID and the Operator Password have been entered providing they are authorized for that particular Operator Station and time of day.

After a series of unsuccessful attempts to sign-on, the Operator Station interface shall be locked for a configurable period of time.

It shall be possible to assign operators either single or multi-user passwords. Single user passwords enable the operator to sign-on to only a single Operator Station thus preventing simultaneous sign-on by the same operator. The multi-user password would typically be used by operators with the highest sign-on security level who may require simultaneous access to more than one Operator Station.

The operator may sign-off at any time by entering a sign-off command.

A time-out feature shall be provided such that the operator shall be automatically signed off after a defined period of keyboard or mouse inactivity.

It shall also be possible to restrict operator sign-on to certain Operator Stations at certain times of the day. This is to prevent operators being able to sign-on when they are not currently on shift or at their normal terminal.

### 3.2.3 DURESS

It shall be possible for an operator to indicate that they are signing on under duress. The system shall recognize that the operator is signing on under duress and it shall then be able to issue a control to alert appropriate assistance.

### 3.2.4 AREA ASSIGNMENT

Each operator shall be assigned one or more specific areas of the building with the appropriate monitoring and control responsibility. An area shall be defined in this context as a logical entity comprising a set of points, reports, display and other system elements in the system. This in turn may represent a physical space in the building. It shall be possible to

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define individual tenant access by means of area assignment. An operator can only view or control those points within the assigned areas.

Area assignment control shall be capable of being superimposed over security control as defined in Section 5.2.1.

### 3.2.5 COMMAND PARTITIONING

It shall be possible to assign to each operator a set of commands (equivalent to target output states) for each assigned area. These commands can be mapped against the output state of any given digital point in the respective area to determine whether a control command is allowed for the particular operator.

### 3.2.6 PASSWORD AUTHENTICATION

Each password shall be an alphanumeric character string made up of a minimum of 5 characters and a maximum of 6 characters. The system shall provide a facility to allow all operators to change their own passwords at any time.

When a password is changed, the system shall not permit the new password to be the same as any of a number of previous passwords used in the past three months. All passwords in the system shall be encrypted both when stored and when transmitted.

### 3.3 OPERATOR EMAIL

It shall be possible for operators to email each other using the FMS. There shall be a dedicated display in the FMS which list the new messages for the current operator. From here, an operator shall be able to open, edit, delete and send and receive messages. The operators will be able to send messages to other people also, providing they have access to that email address.

### 3.4 TIME SCHEDULES

One thousand time schedules shall be provided by the system.

The time schedule facility shall allow the scheduling of Point control on both a periodic and one-off basis. All time schedules shall be configurable via the Operator Station.

The available time schedule type shall as a minimum be:

- One shot - to be executed only once then deleted
- Daily - to be executed every day
- Workday - to be executed Monday to Friday
- Weekend - to be executed on Saturday and Sunday
- Holiday - to be executed on holidays
- Individual days - to be executed on individual days (e.g. Monday)

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### 3.4.1 HOLIDAY ASSIGNMENT

The system shall be capable of defining up to thirty (30) days of holidays up to one year in advance. The holidays so defined shall be taken into account by other system functions such as time schedules.

### 3.4.2 EVENT INITIATED PROGRAMS

Physical and software outputs or groups of outputs shall be assignable through configurable algorithms to an input point. When an input changes state the outputs assigned shall be activated as specified by their physical or configured output modes.

When alarm events of individual or groups of points are suppressed by event initiated programs, any occurrence of such alarm events during the suppress mode shall not be annunciated, reported or journalized.

### 3.5 GROUPING OF POINTS

The system shall provide a means by which a number of alarm inputs, outputs, doors, etc. can be grouped together by the building manager so that monitoring or control can be performed for a group.

### 3.6 EVENT MANAGEMENT

#### 3.6.1 ONLINE LOGGING

It shall be possible to log an event such that it shall be journalized in the event file and optionally printed on the event printer.

Events shall consist of alarms, changes of state in a monitored status point, card holder movements, changes in system status and operator actions.

All journalized events shall be recorded as necessary to include event description, condition, message, time of occurrence, operator responsible and any other information or tags.

It shall be possible for these events to be retrieved online and shown on the screen or printed on the printer by using the reporting system. If events are viewed on the screen, it shall be possible to pause the real time view and prevent events from scrolling off the screen as new events occur.

#### 3.6.2 EVENTS ARCHIVING AND RETRIEVAL

It shall be possible to have an on-line event file as large as the disk capacity can accommodate. Given the disk space, it shall be capable of storing more than 1,000,000 (one million) events on file, with 100,000 events being provided by the base system defined in Section 2.1.

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The event file shall store events in a current online buffer. When the buffer is full an alarm will be raised advising the operator to save the file to an external media. The current online buffer contents will then be transferred to an archive buffer to await archiving to an external media. The current online buffer shall, without interruption, continue to store current events.

Another file area shall be available to hold archived event files ready for playback. These are event files previously archived to external media. Operators shall be able to restore previously archived files via the operator interface and a dedicated display.

The events file system shall be fully integrated with the standard reporting system. The system shall be able to reference the restored playback file if a report is requested containing a time search window covered by the current playback file.

### 3.7 ALARM MANAGEMENT

#### 3.7.1 ALARM TYPES

Each monitored point in the system shall be able to assigned one of four alarm types to individual states. The meaning of the priorities shall be as follows:

##### Priority Action

##### Journal

Changes of state shall be journalized to the Alarm/ Event Log and optionally printed on the Alarm/ Event printer.

##### Low

Change of state will generate a Low priority alarm which will appear on the Alarm Summary. Optionally, the alarm may be printed on the Alarm/Event printer or generate an audible tone.

##### High

Change of state will generate a High priority alarm which will appear on the Alarm Summary. Optionally, the alarm may be printed on the Alarm/Event printer or generate an audible tone.

##### Urgent

This is the highest priority. Change of state will generate an Urgent priority alarm which will appear on the Alarm Summary. Optionally, the alarm may be printed on the Alarm/Event printer or generate an audible tone.

Within each of the four alarm types there shall be 15 sub-priorities available.

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It shall be possible to configure a time such that if a low priority alarm is not acknowledged within this time then the alarm's priority is elevated to high priority and if a high priority alarm is not acknowledged within a configured time, its priority is elevated to urgent priority.

It shall be possible to associate additional messages to be logged into a message summary in the event of an alarm condition.

When an alarm is acknowledged, it shall be possible to automatically issue a reset to a controller to indicate the alarm is acknowledged and to attempt to reset the alarm point.

### 3.7.2 ALARM ANNUNCIATION

Alarms shall be annunciated by:

- Most recent, highest priority alarm message appearing on dedicated alarm line on operator interface.
- Alarm message appearing on alarm summary display.
- Available Tone - based on a "\*.wav" file for each alarm priority
- Alarm message printed on the alarm printer
- Alarm indicator flashing on the operator interface

Alarms shall be annunciated at the station even if there is no operator currently signed-on. This feature shall be available on network connected Operator Stations as long as the computer running the Operator Station software remains logically connected to the network. If the Operator Station is minimized in the Windows environment, then the Operator Station icon will indicate an alarm. An audible tone shall be able to be generated and this tone shall be specified by a "\*.wav" file for each alarm priority.

Points shall be annunciated whilst in alarm. If a point is set to alarm inhibited the point shall no longer cause annunciation. If a point goes into an alarm state whilst inhibited and then is still in the alarm state when the point is set to alarm enabled, the point shall immediately cause annunciation.

### 3.7.3 DEDICATED ALARM LINE AND ALARM INDICATOR

A dedicated alarm line shall appear on all displays showing either the most recent or oldest (configurable), highest priority, unacknowledged alarm in the system. The line shall be clear when there are no unacknowledged alarms for the operator to process.

On occurrence of an alarm, the graphic display shall output the point identification, point type, and description on a dedicated line. If multiple alarm/change of state conditions occurs, subsequent messages shall overwrite the display if they are higher priority. As subsequent alarms are displayed, the previous alarm information shall move to an unacknowledged alarm list awaiting acknowledgement by the operator.

An alarm indicator shall also appear on all displays. This indicator will flash red when there are any unacknowledged alarms pending in the system. This indicator will remain solid red

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if there are alarms which have not returned to normal but which have all been acknowledged. The indicator will be clear if there are no points in an alarm condition awaiting acknowledgement in the system.

#### 3.7.4 ALARM LOGGING

As well as being logged on the printer, alarms shall be logged to an event file for future retrieval in alarm reports or archived to removable media.

#### 3.7.5 ALARM RESPONSE FUNCTION KEYS

The following dedicated function keys shall be provided on the keyboard for alarm action:

**ACKNOWLEDGE:** After moving the cursor to the point in alarm on the screen and selecting the point the operator shall be able to acknowledge an alarm by pressing this key. This action shall be logged in the event file and on the printer showing the operator ID with the message.

**ALARM SUMMARY:** By pressing this key at any time the operator shall be able to view a display showing all currently active alarms. The alarm messages shall be color coded showing priorities. The operator shall be able to view the alarms according to priority. It shall be possible to acknowledge alarms from this display and also go to the associated display defined for the point.

**ASSOCIATED DISPLAY:** After moving the cursor to the point in alarm on the screen and selecting the point the operator shall be able to bring up the display applicable to that alarm by pressing this key. Just selecting the associated display key directly will bring up the associated display for the point currently on the alarm line.

#### 3.7.6 ADVANCED ALARM MANAGEMENT

The FMS shall be capable of advanced alarm management which includes set stages of alarm handling.

The stages shall be:-

- silence alarm condition
- acknowledge and action alarm condition
- respond to alarm condition by using pre-defined responses
- optionally reset alarm

All actions shall be recorded in the event file for retrieval and auditing purposes.

When an alarm is silenced, an instruction page for the alarm will be displayed. The alarm may then be acknowledged from this page and actioned.

Once the alarm is acknowledged and appropriate action has been taken, the operator may move to the response page to select from up to 100 user defined responses to be logged in the event file. At the same time the alarm is removed from the alarm file.

It shall be possible to enable/disable this feature on a point by point basis given the appropriate system privilege level.

#### 3.8 REPORT MANAGEMENT

The FMS shall be capable of providing selected data in an ODBC format for the purpose of extracting data and creating custom reports. It shall be possible to access tables of data from the FMS through an ODBC compliant tool such as Crystal Reports.

It shall also be possible to incorporate the activation of custom reports created through the Crystal Reports tool through the standard FMS report subsystem. Example reports shall be provided to illustrate how to access the ODBC data in the FMS.

Reports shall be produced periodically, on demand or initiated by an event. The report detail display shall allow naming of reports, scheduling information and the destination of the report. The report destination shall be a printer, operator interface or internal file. The report

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output format shall be HTML (Hypertext Markup Language) or can be saved in Microsoft Word or RTF format.

The following report types shall be provided:

### 3.8.1 ALARM/EVENT REPORT

A report shall be provided to produce a summary of all events of a specified type for nominated points occurring in a time period. The time period may be specified as an absolute start and end date and time, or as a period relative to the current time. This report shall also be able to produce a summary of all changes made by a specific operator.

### 3.8.2 POINT CROSS REFERENCE REPORT

A report shall be provided to list information about a nominated point or group of points such as what other reports this point may be referenced in, what displays this point is included on and other related information.

### 3.8.3 POINT ATTRIBUTE REPORT

A report shall be provided to list all points specified by one of the following attribute criteria:

- Out-of-service
- Alarm suppressed
- Abnormal input levels
- In Manual mode
- Nominated state

### 3.8.4 POINT CHANGE REPORT

A report shall be provided which calculates the total number of changes of state (including none) for specified points over a given time period. The time period may be specified as an absolute start and end date and time, or as a period relative to the current time.

### 3.8.5 ALARM DURATION REPORT

A report shall be provided which calculates the total amount of time a nominated point or group of points has been in an alarm condition over a given time period. The time period may be specified as an absolute start and end date and time, or as a period relative to the current time.

### 3.8.6 FIRE CONTROLLER REPORT

It shall be possible to take out reports (in HTML Format) on status of field devices (smoke detectors, Modules etc.) connected to Fire Controller based on the following criteria's (AND/OR):

- (1) Bus
- (2) Controller
- (3) Loop
- (4) Point Number
- (5) Point ID
- (6) States of field device (Normal, Pre alarm, Alarm, Lockout, Disabled, Type mismatch, Trouble, No Response.)
- (7) Analog Value of the smoke detector.

For example:

- (1) It shall be possible to take out a report of all the smoke detectors and modules which are in trouble state in Loop 1 of Fire Controller 1.-- this report shall serve as maintenance report for Maintenance dept.

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- (2) It shall also be possible to take out a report of the smoke detectors which have analog value between 70% to 80% in all fire controllers or for individual fire controller or individual loops.

### 3.9 HISTORICAL DATA COLLECTION

The FMS may continuously collect and store analog and status point process variables (PV) such as historical data. The basic FMS shall contain fast, standard and extended history. Standard history consists of a value snapshot taken at a specified interval and various averages of this snapshot representing the average value over longer periods of time. Extended history is a series of snapshots.

#### Standard History

- 1 minute snapshots
- 6 minute averages
- 1 hour averages
- 8 hour averages
- 24 hour averages

#### Extended History

- 1 hour snapshots
- 8 hour snapshots
- 24 hour snapshots

#### Fast History

- 5 second snapshots.

The historical data can be retrieved by trend sets, operating groups, user built schematics, point detail trends, and point detail numeric history displays. Historical data can also be used in reports, application programs, or archived to off-line media for long term storage.

An operator may review history either in real-time or with an historical offset. Previous history may be selected by scrolling forwards and backwards through the history file.

Trend set displays shall be available to show historical data in the following formats:

- Single Showing plotted historical values for one point
- Dual Showing plotted historical values for up to 2 points
- Triple Showing plotted historical values for up to 3 points
- Multi Showing plotted historical values for up to 8 points
- Numeric Showing numeric historical values for up to 8 points
- X-Y Showing a graphical comparison between 2 points

For each trend set display it shall be possible for operators to configure the number of historical samples and ranges displayed. Points configured in trend sets shall be changeable online.

Operators shall be able to zoom in on information displayed on trend sets for closer inspection. Scroll bars shall be available to move the Trend set backwards and forwards across the historical records. The trend sets shall automatically access archived history files without operator configuration.

## 4 FIRE CONTROL SYSTEM

### 4.1 GENERAL

It shall be possible to completely monitor and control fire devices for the Fire Control System from the Operator Stations. Full color displays shall be provided allowing operator to monitor the devices.

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For each field device on the system the following information shall be displayed on a device detail display:

- State of the device (for example for smoke detector : Normal, Pre alarm, Alarm, lockout, Trouble, No Response, Type Mismatch, Disabled)
- Area code
- Full name
- Address
- Alarm priority

Unless stated, the information above shall be configurable by an operator with appropriate security levels from the point detail display.

## 4.2 GRAPHIC DISPLAY

The Graphic Display on the operator station shall consist of following:

- (1) Smoke Detector's located on the layout
- (2) Current Analog Values of the smoke detectors
- (3) The dynamic state of the detector/ modules represented by different Colours depending on the present state of the detector/module.
- (4) Movement of Mouse over the detectors/module shall indicate the point ID of the Detector/module in the message zone.
- (5) Combo-box for activating hooters/sounders manually by the authorized operator.

The software shall reconfirm before activating hooters/ sounders from the operator by way of user configured popup message.

The minimum proposed configuration of the Operator work station will be as under:

- a) Intel i5
- b) Processor 3.0 GHz or better
- c) Serial ports (RS232) and USB ports.
- d) 4 Gigabytes of RAM memory
- e) 500 Gigabytes of hard disk space.
- f) DVD RW Drive 52x or higher.
- g) 19" Colour Monitor SVGA with a minimum resolution of 1024 pixels Horizontal, 768 lines vertical minimum 16 base colours.
- h) Mouse with 2 Mouse Pads.
- i) Standard Key Board.
- j) Windows Operating System.

## 5. Conductors

All cables used shall be as per makes in the tender documents. MS conduits shall be painted red to differentiate from other electrical conduits

## 6. Wiring

The detectors in the vicinity will be looped by 2x1.5 sqmm LPCB approved mineral insulated copper conductor cables, construction as per BSEN 60702-1:2002 suitable for withstanding 950 deg under fire conditions as per BS 6387 CWZ and 850 deg under fire conditions on one single sample as per BSEN 50200. Cable should be manufactured with seamless copper tube and should be HFLS sheathed as specified in Bill of Quantities. Each loop will be connected directly to the Fire Alarm Control Panel.

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**Additional Terms & Condition for Fire Fighting work**

- 1) The work shall be carried out, as per CPWD General specification, as amended up to date and as per direction of Engineer-in-charge.
- 2) All the material shall be got approved from the Engineer-in-charge before actual use at site.
- 3) No T & P shall be issued to the contractor by the Department.
- 4) The dismantled material (as specified in SOQ) shall be taken away by the contractor, for which necessary credit has been made in the SOQ and other dismantled material (not specified in SOQ) shall be deposited at JE(E) Store for which nothing extra shall be paid towards cartage charges.
- 5) The rates quoted by the firm shall be inclusive of all taxes and duties etc. and nothing extra shall be paid on this account.
- 6) Work will be carried out during odd hours and there may be possibility of labour wastage, no claim shall be entertained by the deptt. in this regard.
- 7) Any damage done to the site & building during execution of work shall be made good by the firm within quoted rates & nothing extra shall be paid on this account.
- 8) Before quoting rates, tenderer should visit site, so as to acquaint themselves of the site conditions.
- 9) The Agency shall depute skilled workman with all safety equipment's to execute the work. Any accidental liabilities will be born by the contractor and department shall not entertain any claim in this regard, whatsoever.
- 10) Modification in the existing wiring, if required is within the scope of work and shall be made by the agency without any extra cost.
- 11) Suitable junction boxes with connector shall be provided for panels to connect the incoming and outgoing wiring within the scope of work and nothing extra shall be paid on this account.
- 12) The contractor shall guarantee the entire Fire Fighting system installation, as per specifications both for components and for system, as a whole. All equipment shall be guaranteed for One year from the date of completion of work against unsatisfactory performance or breakdown due to defective design, manufacture and/or installation. The installation shall be covered by the conditions, that the whole installation or any part thereof found defective within one years from the date of completion shall be replaced or repaired by the contractor free of charge, as decided by the Engineer-in-Charge.
- 13) The onus of incorporating the statutory requirements, as per local bylaws of DFS and MCD and obtaining necessary approval for the fire fighting systems shall rest fully with the Contractor.
- 14) The installation shall be carried out using new Equipment/ Materials complying with applicable standards in a workmanship like manner. Engineer-in-charge reserves the right to reject any part of installation having poor workmanship.
- 15) All minor Masonry, Carpentry and Civil works such as cutting / opening in Masonry Walls/ Internal Partitions, Chasing on Walls, etc. and making good the same to match existing surface shall be done by the Contractor, wherever asked for by the Engineer-in-charge or his authorized representative. Nothing extra shall be paid on this account.

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### LIST OF APPROVED MAKES (ELECTRICAL)

1.	FRLS/PVC Insulated copper wire/Unarmored Telephone cable	Havell's/R R Kabel/L & T/ Finolex/ Polycab
2.	MCB DB/MCB's/Isolator	Hager (L&T)/ Legrand(dx3)/G.E/Siemens(betagard) /snider /Schneider(acti-9)
3.	MCCB (Icu = 100% Ics)	GE/ L & T/Legrand(dpx3)/Schneider(ncx) Siemens(3vl)
4.	Change over switch/ Contactor/Timer/Motor Starter	L & T/ GE/SIEMENS/Havell's
5.	XLPE Cable	Plaza/Havell's/Finolex/Polycab
6.	Al.Cond. Armoured Cable	Havell's/Finolex/Polycab
7.	Steel Conduit & accessories	NIC/BEC/AKG (ISI Marked)
8.	PVC Conduit & accessories	AKG/Precision/BEC (ISI Marked)
9.	Ceiling fans(BFF 5 Star rating)	Crompton Greaves/ Havell's / GE/Orient
10.	Heavy duty Exhaust fan (Duly ISI Marked)	Havell's/ GE/ Almonard/Crompton
11.	Fresh air Fans/Wall fan	Crompton-Brisk Air /Orient-Exhaust fan/Havells-Venti air DXWHT/BLK
12.	Modular type 5amp/15amp switch, Socket, Regulator & Telephone Plug RJ 11 & Computer Socket RJ 45/MCB	WIPRO (Premium)/Legrand-Arteor/ Anchor -Wood/M.K- Wraparound/
13.	Piano type 5amp/15amp switch/socket/ Regulator/Call bell buzzer	M K/ Wipro/Anchor/Panasonic (ISI Marked)
14.	Ceiling Rose (3 Pin)	Kinjal/Sainco/HPL/Anchor (ISI marked)
15.	G.I.Pipes (Duly ISI Marked)	jindal/Hissar/TATA
16.	Industrial Sockets in sheet steel Enclosure with MCB	SIEMENS/ Legrand/ L & T/Havells
17.	M.V. Boards/LT Distribution Board	Advance/Edlec/L&T/Siemens /Havells
18.	Push Buttons	SIEMENS/BCH/L & T as per manufacturer of the equipment
19.	Indicating Lamps	SIEMENS/BCH/L & T as per manufacturer of the equipment
20.	Pole Box	Stanlec/Sintex/Hansal
21.	HP SV/MH BALLAST	Philips/Wipro/Havells/Osram
22.	HPSV/MH LAMP	Halonix/Osram/Surya/Philips
23.	HDPE Pipe	Jain/Sudhakar/Tirupati / REX
24.	LED Fitting	Philips/Wipro/Havells/Trilex/LT
25.	LED Bollard	Philips/Wipro/Havells/Trilex/LT/ Jaquar
26.	Street Light octagonal Poles & Bracket Note:- Pole shall be made from sheet of original manufacturer of TISCO/SAIL/JSW/ESSAR.	Bajaj/BPP/Aster/Paruthi Engineers/Utkarsh/ Valmont
27.	M-20 reinforced cement foundation/foundation bolt/earthing accessories	As per approval of Engineer-in-charge.
28.	Compact type rising mains	Legrand /GE/ Siemens /Schneider/Control & Switch Gears

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29.	End feed unit	Legrand /GE/ Siemens /Schneider/Control & Switch Gears
30.	Plug in/Tap off box	Legrand /GE/ Siemens /Schneider/Control & Switch Gears
31.	HT Panel	C&S Electric/ABB/Schnider/Kirloskar Electric/Crompton Greaves
32.	Alternator	NGEF / Stamford /KEC/Leroy Somer
33.	Anti Vibration mountings	Dunlop/GERB/RESISTOFLEX/Easy Flex/As per OEM
34.	AMF Panel	As per O.E.M.( However the items in AMF Panel shall be as per BOQ)
35.	Engine mounted instrument panel	As per O.E.M.
36.	Acoustic Enclosure	As per O.E.M.
37.	Bus trunking	Legrand/GE/Siemens/Schneider/Control & Switch Gears
38.	HT Cable	Havells /Lappcable/RR Kabel /Skytone/Gloster Polycab
39.	M.S Pipe(Duly ISI Marked)	Tata/Jindal Hissar/Sail
40.	Microprocessor based intelligent system and accessories	Notifier/Adward/Siemens/Bosch/Essex/Apollo/Edward
41.	Pressure Gauges	H Guru/Fiebig/Danfoss

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**FORM OF PERFORMANCE SECURITY/  
BANK GUARANTEE BOND**

1. In consideration of the President of India (hereinafter called "the Government") having agreed under the terms and conditions of agreement No. \_\_\_\_\_ dated \_\_\_\_\_ made between \_\_\_\_\_ and \_\_\_\_\_ {hereinafter called "the said contractor(s)"} for the work \_\_\_\_\_  
\_\_\_\_\_ (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement,  
We \_\_\_\_\_ (indicate the name of the Bank) (hereinafter referred to as "the Bank") hereby undertake to pay to the Government an amount not exceeding Rs. \_\_\_\_\_ /- (Rupees \_\_\_\_\_ only) on demand by the Government.

2. We \_\_\_\_\_ do hereby undertake to  
(indicate the name of the Bank)  
pay the amounts due and payable under this Guarantee without any demure, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor (s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_ /- (Rupees \_\_\_\_\_ only).

3. We, the said bank further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.  
The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We \_\_\_\_\_ further agree that the guarantee  
(indicate the name of the Bank)  
herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge, on behalf of the Government, certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) accordingly discharges this guarantee.

5. We \_\_\_\_\_ further agree with the Government that  
(indicate the name of the Bank)  
the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for

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any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).

7. We \_\_\_\_\_ lastly undertake not to  
(indicate the name of bank)

revoke this guarantee except with the previous consent of the Government in writing.

8. This guarantee shall be valid upto \_\_\_\_\_ unless extended on demand by Government. Notwithstanding anything mentioned above, our liability against this Guarantee is restricted to Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Dated the \_\_\_\_\_ day of \_\_\_\_\_

for \_\_\_\_\_  
(Indicate the name of the Bank)

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## ANNEXURE-B

## AFFIDAVIT

I/ we have submitted a bank guarantee for the work

.....(Name of work)

Agreement No ..... dated.....

From.....(Name of bank with full address)

to the Executive Engineer..... (Name of division)

With a view to seek exemption from payment of security deposit / performance guarantee / guarantee money for expansion joint/ Electrometric bearing/ bitumen mastic wok in cash. This bank guarantee expires on.....

I /we undertaken to keep the validity of the bank guarantee intact by getting it extended from time to time at my/ our own initiative upto a period ..... Months after the recorded date of completion of the work or as directed by the Engineer-in-charge.

i/we also indemnify the government against any losses arising out of..... non encashment of the bank guarantee if any

Deponent

Signature of contractor

The affidavit is to be given by the executants before a first class Magistrate.

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## RECEIPT OF DEPOSITION OF ORIGINAL EMD

Receipt No. _____	Dated _____
1. Name of work:- Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)	
2. NIT No.:- 98/EE/SRD-I/PWD/2018-19	
3. Estimated Cost Rs.: 38,22,66,940/-	
4. Amount of Earnest Money Deposit. Rs.: 48,22,669/-	
5. Last Date of submission of 21.02.2019 Bid at 15:00:00 Hour	
1 Name of Contractor .....	
2 Form of EMD .....	
3 Amount of Earnest Money Deposit Rs ...../-	
4 Date of Submission of EMD .....	
Signature, Name and Designation of EMD	
Receiving Authority (EE/AE(P)/AE/AAO) along with	
Office stamp. ....	
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## GENERAL ABSTRACT

Name of work:- Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)

Sl. No.	Description	Amount
A	Civil Work	
SH:-1.	Main Road , Pavings , Tube well & Redevelopment	Rs. 29,14,49,617/-
SH:-2.	Street Components in Median (toilets and other Buildings)	Rs. 2,07,10,740/-
SH:-3.	Signage and Decorative Stone works.	Rs. 1,73,08,684/-
SH:-4.	Civil works for Fire tanks and Pump rooms	Rs. 66,58,598/-
B.	Electrical work	
SH:-1.	Point Wirings, Distribution Boards, Earthing, Cabling, Light Fixtures and Fans	Rs. 1,77,17,393/-
SH:-2.	West Riser System - Pumping Equipments.	Rs. 2,84,21,908/-
	TOTAL	Rs. 38,22,66,940/-

**Note:**

- The tenderer is required to quote the percentage above/ below on the total estimated cost mentioned above.

Assistant Engineer (P)

Executive Engineer (P)

Superintending Engineer/Project

Chief Engineer  
East Zone, PWD

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**Name of Work:- Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)**

S.N o.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	<b>Sub Head 1 : SITE CLEARANCE AND DISMANTLING</b>					
1.01	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in-charge.					
	a) 1:3:6 or richer mix	3038.00 cum	cum	997.05	3,029,038.00	-
	b) 1:4:8 or leaner mix	1629.00 cum	cum	615.15	1,002,079.00	-
1.02	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.					
	a) In cement mortar	1100.00 160.00 cum	cum	842.75	134,840.00	-
1.03	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50metres lead.	3000.00 Kg.	kg	2.40	7,200.00	-
1.04	Dismantling steel work manually/ by mechanical means in built up sections without dismembering and stacking within 50 metres lead as per direction of Engineer-in-charge.	9529.00 Kg.	kg	1.60	15,246.00	-
1.05	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	500.00 sqm	sqm	109.35	54,675.00	-
1.06	Dismantling precast concrete or stone slabs in paving, floorings, walls, partition walls etc. including stacking within 50 metres lead:					
	Thickness above 40 mm upto 75 mm	1086.00 sqm	sqm	179.70	195,154.00	-
1.07	Taking out C.I. cover with frame from R.C.C. top slab of manholes of various sizes including demolishing of R.C.C. work manually/ by mechanical means and stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead as per direction of Engineer-in-charge.	81.00 Nos	each	290.55	23,535.00	-
1.08	Dismantling of road gully chamber of various sizes including C.I. grating with frame including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead including refilling the excavated gap.	121.00 Nos	each	397.15	48,055.00	-
1.09	Dismantling manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50metres lead as per direction of Engineer-in-charge :					
	a) Water bound macadam road	7920.00 sqm	sqm	90.50	716,760.00	-
	b) bituminous road	41000.00 28874.00 sqm	sqm	177.00	5,110,698.00	-
1.10	Removing existing old mastic wearing course & cleaning the surface for relaying mastic wearing course including disposal of dismantled material rubbish up to a lead of 50m complete as direction of Engineer-in-charge :	1000.00 sqm	sqm	90.50	90,500.00	-

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S.N o.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
1.11	Taking out existing kerb stones of all types from footpath/ central verge, including removal of mortar etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	2420.00 m	m	16.05	38,841.00	-
1.12	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	1086.00 sqm	sqm	53.95	58,590.00	-
1.13	Dismantling of flexible pavement (bituminous courses) by mechanical means and disposal of dismantled material up to a lead of 1 kilometre, as per direction of Engineer-in-charge.	194.00 cum	cum	204.50	39,673.00	-
1.14	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	7839.00 cum	cum	120.55	944,991.00	-
<b>Total : Sub Head No : 1</b>					<b>11,509,875.00</b>	<b>-</b>
<b>Sub Head 2 : EARTHWORK</b>						
2.01	Earth work in excavation by mechanical means (Hydraulic Excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sum on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
	a) All kinds of soil	1685.00 cum	cum	166.40	280,384.00	-
2.02	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :					
	a) All kinds of soil	2400.00 cum				
	i) Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	1970.00 m	Mtr.	225.45	444,137.00	-
	ii) Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm.	2992.00 m	Mtr.	352.00	1,053,184.00	-
2.03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	674.00 cum	cum	125.75	84,756.00	-
2.04	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed :					
	a) All kinds of soil	5830.00 sqm	sqm	53.00	308,990.00	-
2.05	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	2237.00 cum	cum	917.75	2,053,007.00	-

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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
2.06	Providing, Filling and laying compacted bed of dry brick aggregate of 40 mm thick nominal size including spreading, well ramming, consolidating and grouting with jamuna sand, including finishing smooth etc. complete as per direction of Engineer-in-charge.	21.00 cum	cum	1,884.66	39,578.00	-
2.07	Ploughing the existing ground to a depth of 15 cm to 25 cm and watering the same.					
	a) All kinds of soil	2888.00 sqm	sqm	14.10	40,721.00	-
2.08	Carriage of Earth by mechanical transport including loading, unloading and stacking					
	a) Up to 20 KM	506.00 cum	cum	294.17	148,850.00	-
	<b>Total : Sub Head No. 2</b>				<b>4,453,607.00</b>	<b>-</b>
	<b>Sub Head 3 : CEMENT CONCRETE WORK</b>					
3.01	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :					
	a) 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	361.00 cum	cum	5,481.95	1,978,984.00	-
3.02	Providing and laying in position ready mixed plain cement concrete, using fly ash and cement content as per approved design mix and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, excluding the cost of centering, shuttering and finishing, including cost of curing, admixtures in recommended proportions as per IS : 9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.					
	a) M-15 grade plain cement concrete (cement content considered @ 240 kg/cum)	8553.00 cum	cum	6,066.50	51,886,775.00	-
3.03	Providing and fixing at or near ground level precast cement concrete in tree grate frames, kerbs, edgings etc. as per approved pattern and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand) including the cost of required centring, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 cement : 3 fine sand) on exposed surfaces complete.					
	a) 1:1.5:3 (1 Cement : 1.5 coarse sand(zone-III) : 3 grade stone aggregate 20mm nominal size)	29.00 cum	cum	6,169.85	178,926.00	-
	<b>Total : Sub Head No. 3</b>				<b>54,044,685.00</b>	<b>-</b>

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Sub Head 4 : REINFORCED CEMENT CONCRETE WORK						
S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
4.01	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately)					
	a) All works upto plinth level	34.00 cum	cum	6,713.60	228,262.00	-
4.02	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-15 grade Reinforced cement concrete by using 320kg of cement per cum of concrete. All works upto plinth level	20.00 cum	cum	6,040.85	120,817.00	-
4.03	Providing, hoisting and fixing upto floor five level precast reinforced cement concrete in lintels, beams and bressumers including setting in cement mortar 1:3 (1 cement : 3 coarse sand), cost of required centring and shuttering and finishing smooth with 6 mm thick cement plaster 1:3 (1 cement : 3 fine sand) on exposed surfaces but excluding the cost of reinforcement with 1:1.5:3 (1 Cement : 1.5 coarse sand(zone-III) : 3 grade stone aggregate 20mm nominal size)	69.00 cum	cum	8,683.55	599,165.00	-
4.04	Extra for providing richer mixes at all floor levels.					
	Note:- Excess/less cement over the specified cement content used is payable /recoverable separately.					
	a) Providing M-30 grade concrete instead of M-25 grade BMC /RMC. (Note:- Cement content considered in M-30 is @ 340 kg/kg/cum)	27.00 cum	cum	69.50	1,877.00	-
4.05	Add for using extra cement in the items of design mix over and above the specified cement content therein.	12.00 Quintal	Quintal	672.75	8,073.00	-
4.06	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	a) Thermo-Mechanically Treated bars grade FE 500 D as per IS1786	12590.00 Kg.	Kg.	56.60	712,594.00	-

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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
4.07	Centring and shuttering including strutting, propping etc. and removal of form for :	6400.00				
	a) Foundations, footings, bases of columns, etc. for mass concrete.	1677.00 sqm	sqm	193.95	325,254.00	-
	b) Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	50.00 sqm	sqm	378.60	18,930.00	-
	<b>Total : Sub Head No. 4</b>				<b>1,996,042.00</b>	-
	<b>Sub Head 5 : BRICK WORK</b>					
5.01	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:	520.00				
	a) Cement mortar 1:6 (1 cement : 6 coarse sand)	237.00 cum	cum	4,751.65	1,126,141.00	-
5.02	Tile brick masonry with common burnt clay F.P.S. (non modular) tile bricks of class designation 10 in foundation and plinth in:					
	a) Cement mortar 1:4 (1 cement : 4 coarse sand)	20.00 cum	cum	8,209.60	164,192.00	-
5.03	Brick work with selected F.P.S. bricks of class designation 7.5 in exposed brick work including making horizontal and vertical grooves 10mm wide 12mm deep complete from ground level upto plinth level in cement mortar 1:6 (1 cement : 6 coarse sand)	50.00 cum	cum	4,853.70	242,685.00	-
	<b>Total : Sub Head No. 5</b>				<b>1,533,018.00</b>	-
	<b>Sub Head 6 : STONE WORK</b>					
6.01	Stone work (machine cut edges) for wall lining etc. (veneer work) backing filled with a grout of 12mm thick cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade : (To be secured to the backing by means of cramps which shall be paid for separately) :					
	a) Red sand stone - exposed face fine dressed with rough backing.					
	1) 40 mm thick.	49.00 sqm	sqm	2,462.90	120,682.00	-
	b) White sand stone - exposed face fine dressed with rough backing .					
	1) 40 mm thick.	31.00 sqm	sqm	2,493.65	77,303.00	-
	<b>Total : Sub Head No. 6</b>				<b>197,985.00</b>	-
	<b>Sub Head 7 : STEEL WORK</b>					
7.01	Steel work in built up tubular ( round, square or rectangular hollow tubes etc.) for frame work, gate, trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete	22880.00 Kg.	kg	112.20	2,567,136.00	-
	a) Electric resistance or induction butt welded tubes.					
7.02	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
	a) In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	27830.00 Kg.	kg	85.95	2,391,989.00	-

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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
7.03	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainlesssteel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge,(for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc)	500.00 Kg.	kg	472.40	236,200.00	-
7.04	Providing and fixing Ductile Iron (DI) recess type manhole frame & cover (M/S MUNICAST Solutions , LLP, Kolkata or equivalent )for inspection chambers, manhole covers etc. and access fittings to be used within paved area . The Recessed manhole cover consisting of housing and a tray to act as a cover .					
	i) 600x600 clear opening for 25 MT load	76.00 Nos.	each	10,758.40	-	817,638.00
	i) 600x600 clear opening for 40 MT load	80.00 Nos.	each	8,976.60	-	718,128.00
	<b>Total : Sub Head No. 7</b>				<b>5,195,325.00</b>	<b>1,535,766.00</b>
	<b>Sub Head 8 : FLOORING</b>					
8.01	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.					
	a) 40mm thick with 20 mm nominal size stone aggregate	100.00 sqm	sqm	362.60	36,260.00	-
8.02	Providing and laying 30mm thick Polished granite guide block of minimum size 0.45mx0.45m of having 5mm (+/-0.5mm) deep vertical groove line (for vision impaired persons ) as per standard drawing & approved design in all colours and shades in for outdoor floors such as footpath, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	1318.00 sqm	sqm	3,654.50	-	4,816,631.00
8.03	Providing and laying 30mm thick Polished granite tactile block of minimum size 0.45mx0.45m of having 5mm (+/-0.5mm) deep check met cross groove line (for vision impaired persons ) as per standard drawing & approved design in all colours and shades in for outdoor floors such as footpath, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	146.00 sqm	sqm	5,129.25	-	748,871.00
8.04	Providing and fixing 10x10x15.0 cm Granite stone block hand cut and chisel dressed on top, for paving in floors, drains etc. laid over 20mm thick base mortar 1:4 (1 cement : 4 coarse sand) with joints 10mm wide filled with same mortar including ruled pointing etc. complete as per direction of engineer-in-charge.	2904.00 sqm	sqm	2,790.50	8,103,612.00	-

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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
8.05	Providing and laying gang saw cut 30 mm thick, Flame finished and machine cut granite stone of required size and shape of approved shade, colour and texture in footpath, flooring in road side plazas and similar locations, laid over 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement mixed with matching pigment, epoxy touch ups etc. complete as per direction of Engineer-in-Charge.					
	a) With granite stone of area less than 0.50 sqm.	20770.00 sqm	sqm	3,659.00	-	75,997,430.00
8.06	Providing and laying gang saw cut 30 mm thick, mirror polished pre moulded and pre polished machine cut granite stone of required size and shape of approved shade, colour and texture in footpath, flooring in road side plazas and similar locations, laid over 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement mixed with matching pigment, epoxy touch ups etc. complete as per direction of Engineer-in-Charge.					
	a) With granite stone of area less than 0.50 sqm.	1220.00 sqm	sqm	3,339.60	4,074,312.00	-
8.07	Providing and fixing 90x45x15 cm size or required size Mandana Red Quartzite sand stone block hand cut and chisel dressed on top and colour of as per choice from brown or red or grey, for paving in floors, drains etc. laid over 20mm thick base mortar 1:4 (1 cement : 4 coarse sand) with joints 10mm wide filled with same mortar including ruled pointing etc. complete as per direction of engineer-in-charge.	500.00 sqm	sqm	4,713.10	-	2,356,550.00
8.08	Providing and fixing at ground level around the tree, factory made CC Tree Grating using of M-40 grade of approved make & design including setting in position in footpath to the required level and line over a bed 50 mm thick compacted bed of dry stone aggregate of 40mm thick nominal size including spreading, well ramming, consolidating all complete as per direction of Engineer-in-charge. of size :					
	a) 1.50mx1.50m & 75mm thick	280.00 Nos.	each	5,924.20	-	1,658,776.00
8.09	<b>Stone Mosaic</b> flooring using various colour stone as per detailed drawing and specification (black kadapa, granite 30 mm thick any colour minimum size 100x100 ) over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including cleaning all complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : a) 25 mm thick	100.00 sqm	Sqm	759.10	75,910.00	-
8.10	150mm wide <b>Flamed granite</b> edge defining strip 350mm long pieces or as required size as per drawings in silver grey colour laid over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : a) 30 mm thick	1050.00 sqm	Sqm	3,249.30	3,411,765.00	-
8.11	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.	50.00 sqm	sqm	1,861.70	93,085.00	-


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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
8.12	40mm thick marble chips flooring rubbed and polished to granolithic finish, under layer 34mm thick cement concrete 1:2:4 (1 cement:2 coarse sand: 4 gaded stone aggregate 12.5mm nominal size) and top layer 6mm thick with white, black, chocolate, grey, yellow or green marble chips of sizes from 1mm to 4mm nominal size, laid in cement marble powder mix 3:1 (3 cement : 1 marble powder) by weight in propotion of 4:7 (4 cement marble powder mix : 7 marble chips) by volume, including cement slurry etc. complete :					
	a) Dark shade pigment with ordinary cement	75.00 sqm	sqm	616.80	46,260.00	-
	<b>Total : Sub Head No. 8</b>				<b>15,841,204.00</b>	<b>85,578,258.00</b>
	<b>Sub Head 9 : FINISHING</b>					
9.01	Finishing walls with textured exterior paint of required shade : New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	1104.00 sqm	sqm	150.65	166,318.00	-
9.02	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @0.90 ltr/10 sum over an under coat of primer applied @ 0.80 ltr/ 10 sum of approved brand or manufacture	2009.00 sqm	sqm	84.75	170,263.00	-
9.03	12 mm cement plaster of mix :	<del>1160.00</del>				
	a) 1:6 (1 cement : 6 coarse sand)	700.00 sqm	sqm	168.25	117,775.00	-
9.04	15 mm cement plaster on rough side of single or half brick wall of mix :					
	a) 1:6 (1 cement : 6 coarse sand)	500.00 sqm	sqm	194.60	97,300.00	-
9.05	20 mm cement plaster of mix :					
	a) 1:6 (1 cement : 6 coarse sand)	500.00 sqm	sqm	232.85	116,425.00	-
9.06	12 mm cement plaster finished with a floating coat of neat cement of mix	950.00 sqm	sqm	226.80	215,460.00	-
	a) 1:3 (1 cement: 3 fine sand)					
	<b>Total : Sub Head No. 9</b>				<b>883,541.00</b>	<b>-</b>
	<b>Sub Head 10 : ROAD WORK</b>					
10.01	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm. depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres.	2000.00 sqm	sqm	90.10	180,200.00	-
10.02	Providing and applying tack coat using bitumen emulsion conforming to IS:8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom.					
	With rapid setting bitumen emulsion					
	a) On bituminous surface @ 0.25kg/sqm	300.00 sqm	sqm	8.65	2,595.00	-

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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
10.03	Providing and laying design mix cement concrete of M-30 grade, in roads/taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel					
	form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints ( 10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately. Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer	5884.00 cum	cum	7,160.40	42,131,794.00	-
10.04	Extra for providing and mixing hardening compound of approved quality as per manufacturer's specification in cement concrete.	3856.00 Ltr	Ltr.	46.45	179,111.00	-
10.05	Providing and laying of cycleway coloured surfacing material (3-4mm thickness) for cycle routes by using hot applied material (180 - 210 OC) containing, pigmented modified rosin ester blended with selected high quality granite aggregate. Applied using screed hoe, curing time 15-20 minutes. Operation through single vehicle machine (mounted with equipments, raw material and crew), all including labour, equipment, transportation charges, T&P necessary taxes and excise duty etc. complete in all respect as per direction of Engineer-in-Charge. The process is approved by CRRI, BBA.	19281.00 sqm	sqm	947.56	-	18,269,904.00
10.06	Providing and laying Dense Bituminous Concrete on prepared surface with specified graded stone aggregate for wearing course including loading of aggregate with F.E. loader, and hot mixing of bitumen with filler and stone aggregate in hot mix plant, transporting the mixed material by tippers to paver and laying the mixed material with mechanical paver finisher fitted with electronic sensing device to the required level and grade and rolling with road rollers, as per MORTH specifications, to achieve the desired density and compaction but excluding cost of primer/ tack coat.					
	a) 40 mm/50mm compacted thickness with bitumen of grade PMB - 40 @ 5.5% (percentage by weight of total mix) and lime @ 3% (percentage by weight of aggregate) prepared in Batch type Hot mix plant of 100-120TPH capacity	150.00 cum	cum	7,863.85	1,179,578.00	-

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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
10.07	Providing and laying Dense Graded Bituminous macadam using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher fitted with electronic sensing device to the required level, alignment and grade and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve desired compaction and density, complete as/directions of engineer in chief.					
	a) 50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in batch type hot mix plant off 100-120 TPH capacity.	180.00 cum	cum	7,247.20	1,304,496.00	-
10.08	Providing and applying 2.5mm thick road marking strips (retro-reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	864.00 sqm	sqm	391.25	338,040.00	-
10.09	Painting runway/taxi track/apron marking with adequate no. of coats to give uniform finish with road marking paint of superior make as approved by the Engineer-in-charge i/c cleaning the surface of all dirt, scales, oil, grease and other foreign material etc. and lining out complete.					
	a) New work (Two or more coats)	350.00 sqm	sqm	104.90	36,715.00	-
10.10	Painting road surface marking with adequate no. of coats to give uniform finish with ready mixed road marking paint conforming to IS : 164, on bituminous surface in white/yellow shade including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete.					
	a) New work (Two or more coats).	1200.00 sqm	sqm	133.10	159,720.00	-
10.11	Providing and applying 2.5 mm thick road marking Signage (retroreflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications (Area of 1 Arrow= min. 1.57sqm)					
	(a) Directional arrows, lettering etc. as per Drg. No 61 of MOST Type "Design for Inter-sections on National Highways".	110.00 Nos.	each	684.40	75,284.00	-
	(b) Zebra crossings & line over separator stone for Cycle track (Crossing, start,end) markings, Stop line, Word messages, Give way line & symbol messages and IPT / Parking stands, Obstructions, approach markings & Word messages at bus stops ,	672.00 sqm	sqm	419.30	281,770.00	-


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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
10.12	Providing and laying factory made coloured chamfered edge Cement Concrete paver blocks of required strength, thickness & size/shape, made by table vibratory method using PU mould, laid in required colour & pattern over 60mm thick compacted bed of fine sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with jamuna sand and cutting of paver blocks as per required size direction of Engineer-in-Charge. 60mm thick C.C. paver block of M-35 and pattern, finishing and sweeping extra sand in footpath, parks, lawns, drive ways or light traffic parking etc. complete as per manufacturer's specifications & direction of Engineer-in-Charge. 60mm thick C.C. paver block of M-35 grade with approved colour, design & pattern.	100.00 sqm	sqm	756.15	75,615.00	-
10.13	Providing and laying at or near ground level factory made kerb stone of M-30 grade cement (RMC) of size 90x30x10cm or 90x30x15cm thick as per design i/c curves pieces, slant pieces etc. as required in position to the required line, level and curvature jointed with cement mortar 1:3 (1 cement : 3 coarse sand ) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge ( length of finished kerb edging shall be measured for payment ). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).					
	a) stright in length	50.00 cum	cum	6,618.70	330,935.00	-
10.14	Providing and fixing Red sand stone bollards with chamfered edges/ cylindrical/ in hand tooled smooth finish as/design of size 300 mmx300mm square at bottom and equavalent octagonal base, 900mm over all height embedded 300mm depth in cement concrete 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including necessary excavation of size 500x500x450mm deep for the same in fixed on edges of bitumens road, footpath , concrete pavement area as specified spacing all complete as per standrad drawing & direction of Engineer-in-charge (CC 1:2:4 & excavation shall be paid seperatly ).	220.00 cum	cum	44,148.00	9,712,560.00	-
10.15	Providing and fixing Red sand stone SEAT of size 0.35x0.35x1.50m long or required sizes laid on base block of same stone with chamfered edges & smooth finish as per design 100mm depth embedded in cement concrete 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including necessary excavation of size 500x500x250mm deep same in fixed on footpath , concrete pavement area as specified spacing all complete as per standrad drawing & direction of Engineer-in-charge (CC 1:2:4 & excavation shall be paid seperatly ).	30.00 cum	cum	41,797.00	1,253,910.00	-
10.16	Supplying and fixing plastic bull nose barriers /bollards ( heavy duty) made of high impact resistant polyethylene of none fading colour of standard make and design.					
	a) Bull nose barriers of 1180mm length, 460mm front width, 1330mm back width of 970mm height. (Water ballast 1000 lts)	50.00 Nos.	each	20,700.00	-	1,035,000.00
	b) Bull nose barriers of 1000mm length, 390mm front width, 670mm back width of 900mm height. (Water ballast 350 lts)	50.00 Nos.	each	17,250.00	-	862,500.00

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लोक सेतु प्राश्निक एड  
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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	c) 200 mm dia pipe	100.00 metre	metre	700.90	-	70,090.00
	d) 100 mm dia pipe	100.00 metre	metre	314.00	-	31,400.00
11.04	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :	364.00				
	a) Inside size 90x80 cm and 45 cm deep excluding cover with frame	151.00 Nos.	each	6,864.70	1,036,570.00	-
11.05	Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design :					
	a) 0.91 m deep with FRP cover and frame, fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :					
	i) With F.P.S. bricks class designation 75	10.00 Nos.	each	13,022.30	-	130,223.00
11.06	Raising manhole cover and frame slab to required level including dismantling existing slab and making good the damage as required (Raising depth of manhole to be paid separately) :	685.00				
	a ) Rectangular manhole 120x90 cm with circular cover 560 mm dia of grade HD - 20	94.00 Nos.	each	2,528.50	237,679.00	-
	b ) Circular manhole 140 cm dia with circular cover 600 mm dia of grade EHD - 35	47.00 Nos.	each	217.00	10,199.00	-
11.07	Providing and fixing in position factory made FRP manhole cover and frame of required shape and approved quality					
	a) 600 mm dia circular cover	10.00 Nos.	each	5,639.50	-	56,395.00
11.08	Constructing brick masonry circular manhole 1.22m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12mm thick with cement mortar 1:3 (1 cement :3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design :					

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
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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	a ) 1.68 m deep with FRP Cover and frame fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :					
	i) With F.P.S. bricks class designation 75	10.00 Nos.	each	20,626.40	-	206,264.00
11.09	Extra depth for circular type manhole 1.22m internal dia (at bottom) beyond 1.68 m to 2.29 m :					
	a ) With F.P.S. bricks class designation 75	5.00 metre	metre	6,362.65	31,813.00	-
11.10	Extra for depth for manholes :					
	a) Size 90x80 cm					
	i) With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	76.00 metre	metre	5,718.60	434,614.00	-
11.11	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) without cover with frame R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 coarse sand (Zone III) : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design:					
	a) Inside dimensions 455x610 mm and 45 cm deep excluding cover with frame	770.00 Nos.	each	3,006.40	2,314,928.00	-
	<b>Total : Sub Head No. 11</b>				<b>4,065,803.00</b>	<b>13,372,854.00</b>
	<b>Sub Head 12 : DRILLING OF TUBEWELL</b>					
12.01	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.					
	a) All types of soil					
	i) 300 mm dia	40.00 metre	metre	370.70	14,828.00	
12.02	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.					
	a) 150 mm nominal size dia	18.00 metre	metre	572.30	10,301.00	
12.03	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.					
	a) 150 mm nominal size dia	18.00 metre	metre	529.35	9,528.00	

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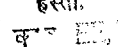
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S.No	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
12.04	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge	2.00 cum	cum	1,175.60	2,351.00	
12.05	Development of tube well in accordance with IS: 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	12.00 hr	hour	542.20	6,506.00	
12.06	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:					
	a) 150 mm dia	1.00 Nos.	each	182.95	183.00	
12.07	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.					
	a) 150 mm clamp	1.00 Nos.	each	1,017.70	1,018.00	
12.08	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).					
	a) 150 mm dia	1.00 Nos.	each	230.75	231.00	
12.09	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					
	Internal work - Exposed on wall					
	a) 50 mm dia nominal bore	50.00 metre	metre	472.40	23,620.00	
12.10	Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :					
	a) 50 mm diameter pipe	20.00 metre	metre	25.75	515.00	
12.11	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
	a) 50 mm nominal bore	1.00 Nos.	each	749.90	750.00	
12.12	Providing and fixing gun metal non- return valve of approved quality (screwed end) :					
	a) 50 mm nominal bore					
	i) Horizontal	1.00 Nos.	each	987.70	988.00	

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	i) Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	96.00 m	Mtr.	225.45	21,643.00	-
1.03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	20.00 cum	cum	125.75	2,515.00	-
1.04	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	59.00 cum	cum	917.75	54,147.00	-
1.05	Providing, Filling and laying compacted bed of dry brick aggregate of 40 mm thick nominal size including spreading, well ramming, consolidating and grouting with jamuna sand, including finishing smooth etc. complete as per direction of Engineer-in-charge.	59.00 cum	cum	1,884.66	111,195.00	-
1.06	Carriage of Earth by mechanical transport including loading, unloading and stacking					
	a) Up to 20 KM	15.00 cum	cum	294.17	4,413.00	-
	<b>Total : Sub Head No. 1</b>				<b>202,233.00</b>	<b>-</b>
	<b>Sub Head 2 : CEMENT CONCRETE WORK</b>					
2.01	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :					
	a) 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	8.00 cum	cum	5,481.95	43,856.00	-
	b) 1:5:10 (1 cement : 5 coarse sand (zone-III) : 10 graded stone aggregate 40 mm nominal size).	51.00 cum	cum	4,209.05	214,662.00	-
	<b>Total : Sub Head No. 2</b>				<b>258,518.00</b>	<b>-</b>
	<b>Sub Head 3 : REINFORCED CEMENT CONCRETE WORK</b>					
3.01	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 300 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately).					
	a) All works upto plinth level	107.00 cum	cum	6,446.45	689,770.00	-
3.02	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	a) Thermo-Mechanically Treated bars grade FE 500 D as per IS1786	10700.00 Kg.	Kg.	56.60	605,620.00	-
3.03	Centring and shuttering including strutting, propping etc. and removal of form for :					
	a) Foundations, footings, bases of columns, etc. for mass concrete.	357.00 sqm	sqm	193.95	69,240.00	-
	<b>Total : Sub Head No. 3</b>				<b>1,364,630.00</b>	<b>-</b>

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
5.04	Supply and install modular toilet cubicles of MERINO-BESCO make 'TITAN STD' series or equivalent as per manufacturer's std specifications. All intermediate panels, pilasters, doors shall be made up of Solid Compact Laminate (Phenolic Core Board) as per IS 2046 based on thermosetting resins, homogeneously reinforced with cellulose fibers making cubicles impervious to Water, resistant to Fire, etc. Compact laminate should be Greenguard and IGBC certified, All accessories shall be SS 304 grade including all hardware/fittings. The pilaster are anchored to the flooring using adjustable SS legs. The SS SQUARE top rail shall be fixed on the top of the pilasters. Std accessories include SS Hinges, SS Door knob, SS thumb turn indicator, SS coat hook, SS SQUARE top rail and SS channels (All accessories in SS 304 grade) SS legs in SS 316 Grade. Titan Std Series Cubicles:					
	a) Std Sizes (W x D x H)- 900 mm x 1550 mm x 2100 mm, (Height is including 150 mm gap from bottom) Door Size- 600 mm	12.00 Nos.	each	32,920.60	-	395,047.00
5.05	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :					
	a) For fixed portion					
	i) Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	1534.00 Kg.	kg	391.80	601,021.00	-
	b) For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)					
	i) Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	362.00 Kg.	kg	452.40	163,769.00	-
5.06	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item):	32.00 sqm	sqm	1,003.95	32,126.00	-
	a) With float glass panes of 5.50 mm thickness					
5.07	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
	a) 200x10 mm	152.00 Nos.	each	76.15	11,575.00	
5.08	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
	a) 100 mm	64.00 Nos.	each	45.10	2,886.00	
<b>Total : Sub Head No. 5</b>					<b>811,377.00</b>	<b>10,100,440.00</b>

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	<b>Sub Head 6 : STEEL WORK</b>					
6.01	Steel work in built up tubular ( round, square or rectangular hollow tubes etc.) for frame work, gate, trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete a) Electric resistance or induction butt welded tubes.	16597.00 Kg.	kg	112.20	1,862,183.00	-
6.02	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	2710.00 Kg.	kg	67.60	183,196.00	-
6.03	Providing and fixing Grab bar supports etc for disable friendly toilets using brush #8 finished Stainless steel members ( Stainless Steel Grade 316 ) including hold fasts, cutting, drilling, hoisting, fixing and argon welding etc. in position as per approved drawing and direction of Engineer in charge. ( work shall be executed through deptt. approved specialised agency only ) a) Horizontal Wall mounted rail as per drawings b) Wall mounted Back Rail as per drawings c) Vertical Wall mounted rail as per drawings d) Lift Up arm support as per drawings	6.00 Nos. 6.00 Nos. 6.00 Nos. 6.00 Nos.	each each each each	3,837.60 3,837.60 3,837.60 4,659.90	- - - -	23,026.00 23,026.00 23,026.00 27,959.00
6.04	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.	1638.00 Kg.	kg	68.00	111,384.00	-
6.05	Providing and fixing stainless steel ( Grade 304 ) railing , Grating etc made of Hollow tubes, channels, plates, bars etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainlesssteel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge,(for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc)	544.00 Kg.	kg	472.40	256,986.00	-
6.06	Providing and fixing stainless steel ( Grade 304 ) Urinal wall sheet of 2 mm thick , including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainlesssteel bolts etc., of required size, with suitable arrangement as per approval of Engineer-in-charge,(for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc) all complete as per approved drawing & direction of Engineer in Charge	544.00 Kg.	kg	472.40	256,986.00	-
6.07	Providing and fixing carbon steel galvanised ( minimum coating 5 micron ) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm <sup>2</sup> ), counter sunk head, comprising of 10 m dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge. a) 10 x 120 mm	1092.00 Nos.	each	91.80	100,246.00	-

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6.08	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
	a) In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	922.00 Kg.	kg	85.95	79,246.00	-
	<b>Total : Sub Head No. 6</b>				<b>2,850,227.00</b>	<b>97,037.00</b>
	<b>Sub Head 7 : FLOORING</b>					
7.01	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.					
	a) 40mm thick with 20 mm nominal size stone aggregate	105.00 sqm	sqm	362.60	38,073.00	-
7.02	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand), laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.					
	a) Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	320.00 sqm	sqm	2,937.70	940,064.00	-
7.03	Providing and laying flamed finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :					
	a) Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	209.00 sqm	sqm	2,887.85	603,561.00	-
	<b>Total : Sub Head No. 7</b>				<b>1,581,698.00</b>	<b>-</b>
	<b>Sub Head 8 : ROOFING</b>					
8.01	Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer in- charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	446.00 sqm	sqm	550.40	245,478.00	-

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
9.03	15 mm cement plaster on rough side of single or half brick wall of mix :					
	a) 1:6 (1 cement : 6 coarse sand)	58.00 sqm	sqm	194.60	11,287.00	-
	<b>Total : Sub Head No. 9</b>				<b>34,781.00</b>	-
	<b>Sub Head 10: SANITARY INSTALLATIONS</b>					
10.01	Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:					
	a) Stainless Steel AISI-304(18/8) Orissa pattern W.C. pan of size 585x480 mm with flush pipe and integrated type foot rests	12.00 Nos.	Nos	6,769.60	81,235.00	
10.02	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
	MAKE : Jaquar; MODEL NO. : CNS-WHT-WH10; EWC, S-trap (390mm x 350mm x 505mm) or equivalent	10.00 Nos.	Nos	4,377.20	-	43,772.00
10.03	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					
	a) Stainless Steel AISI-304(18/8) Wash basin 530x345 mm with single 15 mm C.P. brass pillar tap	28.00 Nos.	Nos	2,920.75	81,781.00	
10.04	Providing and fixing of 15 mm dia brass angle valve (inlet fitting ball valve type) having strainer screen complete with wall flange of following make and model:(or equal approved)					
	MAKE : ARCO, Spain; Chrome finish or equivalent	73.00 Nos.	Nos	439.80	-	32,105.00
10.05	Providing and fixing C.P brass ablution faucet (health faucet) comprising hand held shower with operating lever, 1 m long flexible tube and wall hook all complete.NOTE: Faucet shall meet Green Building/ GRIHA certification requirement for flow.					
	MAKE : Jaquar; MODEL NO. :Continental or equivalent	8.00 Nos.	Nos	1,706.10	-	13,649.00
10.06	Providing and fixing of 15 mm dia C.P wash basin mixer with wall flange,of following make. (or equal approved). NOTE: Mixer shall meet Green Building/ GRIHA certification requirement for flow.					
	MAKE : Jaquar; MODEL NO. :CON-167KNB; basin mixer or equivalent	26.00 Nos.	Nos	2,641.10	-	68,669.00
10.07	Providing and fixing of spring loaded self closing type 15 mm dia C.P brass concealed urinal flushing device with wall flange,of following make. (or equal approved)					
	MAKE : Jaquar; MODEL NO. :PRS-073 or equivalent	27.00 Nos.	Nos	2,312.00	-	62,424.00
10.08	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.					
	a) 15mm nominal bore	35.00 Nos.	Nos	492.55	17,239.00	-
10.09	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.					
	a) 15mm nominal bore	23.00 Nos.	Nos	545.95	12,557.00	-

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
10.10	Providing and Fixing of low noise Concealed Flush Mechanism for WC with <b>low pressure</b> with internal isolating valve including roughing -in-set for mechanical actuation (Comprises Plastic Shell Casing; preassembled water path out of DR brass; Isolating valve/Connection G 1" external thread, right; Flow through plug G 3/4 " external thread; cleaning cover; height adjustable flush pipe with construction plug ; flow pressure: 0.8 to 2.5 bar flush volume: 1.4 l/s at min. <b>0.8 bar flow pressure</b> fitting connection: DN 25 G 1 external thread right and Design control button (Front panel out of <b>Brush Stainless Steel</b> ) for two flush volume -(Economy button- 3 l and main flush volume adjustable between 4.5 to 6 l) inclusive self closing cartridge with automatic jet cleaning needle Noise Class -I ; Material : all parts conducting water out of dezincification -resistant water					
	Model no. 01 137 00 99 with 02 815 28 99 of Schell or equivalent	22.00 Nos.	Nos	14,083.60	-	309,839.00
10.11	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	28.00 Nos.	Nos	795.15	22,264.00	-
	<b>Total : Sub Head No. 10</b>				<b>215,076.00</b>	<b>530,458.00</b>
	<b>Sub Head 11: SOIL, WASTE, VENT AND RAIN WATER PIPEWORK</b>					
11.01	Providing and fixing soil, waste and vent pipes :					
	a) 100 mm dia.					
	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989.	94.00 m	m	921.65	86,635.00	-
	b) 75 mm dia.					
	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989.	112.00 m	m	794.55	88,990.00	-
11.02	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including cost of cutting holes and making good the walls etc. :					
	a) for 100 mm dia pipe	24.00 Nos.	Nos	167.35	4,016.00	-
	b) for 75 mm dia pipe	24.00 Nos.	Nos	165.05	3,961.00	-
11.03	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete					
	100 mm dia.					
	Sand cast iron S&S as per IS - 3989	50.00 Nos.	Nos	384.90	19,245.00	-
11.04	Providing and fixing plain bend of required degree.					
	a) 100 mm dia.					
	Sand cast iron S&S as per IS : 3989	24.00 Nos.	Nos	334.95	8,039.00	-
	b) 75 mm dia.					
	Sand cast iron S&S as per IS : 3989	24.00 Nos.	Nos	248.20	5,957.00	-
11.05	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :					
	a) 100 mm diameter pipe	90.00 m	m	40.65	3,659.00	-
	b) 75 mm diameter pipe	90.00 m	m	31.00	2,790.00	-

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
11.06	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.					
	External work					
	a) 32 mm dia. nominal bore	52.00 m	m	247.40	12,865.00	-
	b) 40 mm dia. nominal bore	50.00 m	m	301.05	15,053.00	-
11.07	Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work ..					
	a) 32 mm dia. nominal bore	50.00 m	m	18.40	920.00	-
	b) 40 mm dia. nominal bore	62.00 m	m	21.75	1,349.00	-
11.08	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) Single socketed pipes.					
	a) 75 mm diameter	116.00 m	m	148.75	17,255.00	-
11.09	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) Single socketed pipes.					
	a) Single pushfit Coupler :					
	i) 75 mm diameter	116.00 Nos.	Nos	64.95	7,534.00	-
	b) Bend 87.5°					
	i) 75 mm bend	152.00 Nos.	Nos	76.55	11,636.00	-
11.10	Providing and fixing of floor traps formed of Cast Iron 'P' traps complete, including cost of cutting and making good the walls and floors wherever required.					
	a) 100 mm inlet and 100 mm outlet	56.00 Nos.	Nos	964.60	-	54,018.00
	<b>Total : Sub Head No. 11</b>				<b>289,904.00</b>	<b>54,018.00</b>
	<b>Sub Head 12: WATER SUPPLY</b>					
12.01	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with lamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.					
	Internal work – Exposed on wall					
	a) 15 mm nominal outer dia. Pipes.	68.00 m	m	142.95	9,721.00	-
	b) 20 mm nominal outer dia. Pipes.	60.00 m	m	179.95	10,797.00	-
	c) 40 mm nominal outer dia. Pipes.	180.00 m	m	385.50	69,390.00	-
12.02	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee,including cutting and threading the pipe etc. complete					
	a) 25 to 40 mm nominal bore	11.00 Nos.	Nos	394.15	4,336.00	-
12.03	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	27000.00 litres	litre	7.25	195,750.00	-
	<b>Total : Sub Head No. 12</b>				<b>289,994.00</b>	<b>-</b>

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	<b>Sub Head 13: DRAINAGE</b>					
13.01	Providing and laying HDPE , DWC pipe of Class SN-8 , confirming to IS-16068 -II (M/S Hindustan pipe or equivalent ) of 6m length pipe will be used with one side expended with rubbering otherwise including with one coupler & two rings & jointing the same using the adhesive in joints as recommended by the manufacturer specification all complete including testing of joints & direction of Engineer in Charge. etc. complete :					
	200 mm dia pipe	104.00 metre	metre	700.90	-	72,894.00
	<b>Total : Sub Head No. 13</b>				-	72,894.00
	<b>Total for Civil Work</b>				9,281,376.00	10,854,847.00
	<b>Grand Total for Civil Work</b>				20,136,223.00	
	<b>Add Cost Index 15.69% on DSR Item</b>				1,456,248.00	
	<b>TOTAL</b>				21,592,471.00	
	<b>Less 9.50% on DSR-2016 items</b>				(881,731.00)	
	<b>TOTAL</b>				20,710,740.00	

### Sub-Head-3:- Signage and Decorative Stone works

S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
1.00	Earth work in excavation by mechanical means (Hydraulic Excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sum on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
	a) All kinds of soil	193.00 cum	cum	166.40	32,115.00	
2.00	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	77.00 cum	cum	125.75	9,683.00	
3.00	Carriage of Earth by mechanical transport including loading, unloading and stacking					
	a) Up to 20 KM	58.00 cum	cum	294.17	17,062.00	
4.00	Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).	74.00 cum	cum	332.55	24,609.00	
5.00	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :					
	a) 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	42.00 cum	cum	5,481.95	230,242.00	
	b) 1:5:10 (1 cement : 5 coarse sand (zone-III): 10 graded stone aggregate 40 mm nominal size).	30.00 cum	cum	4,209.05	126,272.00	
6.00	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
	a) Cement mortar 1:6 (1 cement : 6 coarse sand)	157.00 cum	cum	4,751.65	746,009.00	

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
7.00	Providing and fixing engraving stone information boards up to 10 metre heights with 30mm thick gang saw cut stone with (machine cut edges) of uniform colour and required size , fixed to Stainless steel structural frame work and/ or with the help of Stainless steel nut bolts Washers, cramps, pins etc. and sealing the gaps of joints with approved weather sealant as per Architectural drawing and direction of Engineer-in-charge. (The engraving on stone, Stainless steel frame work, Stainless steel nut bolts Washers, cramps and pins etc. shall be paid for separately).					
	a) Red sand stone - 30mm thick gang saw cut stone	109.00 sqm	sqm	1,439.75	156,933.00	
8.00	Providing and fixing engraving stone information boards up to 10 metre heights with 30mm thick gang saw cut stone with (machine cut edges) of uniform colour and required size , fixed to Stainless steel structural frame work and/ or with the help of Stainless steel nut bolts Washers, cramps, pins etc. and sealing the gaps of joints with approved weather sealant as per Architectural drawing and direction of Engineer-in-charge. (The engraving on stone, Stainless steel frame work, Stainless steel nut bolts Washers, cramps and pins etc. shall be paid for separately).					
	a) White Marble stone (Grade 1) - 30mm thick polished & finished stone	24.00 sqm	sqm	10,303.70		247,289.00
9.00	Stone work, for information Post of size 0.45m x 0.45m & 1.80m above GL or any required size & embedded in cement concrete block 0.75m deep below paver finishing level all complete including pointing ( if required ) with white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade. (Excavation & CC shall be paid separately)					
	a) Red sand stone (external size of finished stone block shall be measured for payment)	22.00 cum	cum	41,029.55	902,650.00	
10.00	Extra for inlay work on paving stone, for calligraphy, patterns, etc. with laser cutting process depth of stone up to 40mm thick of both stone of sand stone, granite, marbels etc. of all sizes , patterns including all necessary operations all complete as per approved Drawings & direction of Engineer in Charge.	50.00 sqm	sqm	37,868.20		1,893,410.00
11.00	Extra for Engraving work for water pattern , calligraphy, with laser Engraving process depth up to 0.5 mm on the faces of sand stone, granite, marbels etc. of all sizes ,patterns including all necessary operations complete as per approved Drawings & direction of Engineer in Charge.	2250.00 441.00 sqm	sqm	3,786.80		1,669,979.00
12.00	Stone work (machine cut edges) for wall lining etc. (veneer work) backing filled with a grout of 12mm thick cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade : (To be secured to the backing by means of cramps which shall be paid for separately) :					
	a) Red sand stone - Exposed face machine cut and table rubbed with rough backing					
	l) 40 mm thick.	202.00 sqm	sqm	3,433.00	693,466.00	

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
13.00	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainlesssteel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge,(for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc)	12085.00 Kg.	kg	472.40	5,708,954.00	
14.00	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors , Frames with S.S. Flat 15x3 mm and nuts & bolts complete.					
	a) Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides	415.00 sqm	sqm	1,041.55	432,243.00	
15.00	Providing and fixing carbon steel galvanised ( minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm <sup>2</sup> ), counter sunk head, comprising of 10 m dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.					
	a) 10 x 80 mm	728.00 Nos.	each	74.75	54,418.00	
	b) 10 x 160 mm	896.00 Nos.	each	125.65	112,582.00	
16.00	Supplying , fixing & placing around the PSS unit the precasted rectangular shape Planter using M-30 grade cement concrete & outer size 0.60x0.45x0.30m with wall thickness not less than 25mm & using the nominal wire reinforcement & necessary weeping hole all complete with neat cement finish alround all complete as per approved Architect drawings .	132.00 Nos.	each	1,428.60		188,575.00
17.00	20 mm cement plaster of mix :					
	a) 1:6 (1 cement : 6 coarse sand)	200.00 sqm	sqm	220.40	44,080.00	
18.00	Item No- 13.03-Fabrication, Supply and Installation of SS 304 Grade center mounted dustbin of size 405 mm dia. X550 mm high supported on tubular structure pipe dia-75 mm of 3 mm thickness, 6mm thick MILD STEEL base plate fixed with 101.6 mm (OD) tube by welding by using dissimilar metal welding rod (Welder should be TUV certified), 75mm dia tube to support dust bin base made of 6 mm sheet perforated base hold by SS 316 grade four arms investment casted slotted spider as shown in the drawing of weight =1.5 kg. All bolted joints to be welded in the end to make it vendal/theft free. Top12 mm x 12 mm tube ring of dustbin should have 4 numbers of knobs made on CNC/VMC machine to hold plastic bags. Dustbin base should have perforation and circular cutting made on laser cutting machine. Department logo to be marked on the specified location as per drawing through laser machine. Dusbin should be complete in all respect as per drawing and as approved by Engineer-in-charge. (Capacity of Dustbin-80 liters) maximum . Overall weight of the dustbin including four arms spider support = 19.5 Kg (approx) which shall be consider for payment, including additional fixing accessories such as nuts, bolt, fasteners, MS plate etc. J-Hook/chemicalfasterner of HILTI make of minimum size 200mm(length) and as approved by Engineer-in-charge for lifting/handling/embeded in Concrete block etc.	100.00 Nos	each	16,093.70	1,609,370.00	

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
19.00	Supplying and fixing retro reflective sheeting grade-IV as per ASTM-D 4956-07 in two layers of approved colour pasted over Stainless sheet Dust Bins /ACM/Aluminium sheet complete with necessary adhesive and pressure method etc. The base layer of Type iv sheet shall be on full face of Stainless sheet/ACM/Aluminium sheet duly pasted in required colour and top layer of retro reflective sheet shall be grade-IV with words/directions,arrows,signs shall be pasted over base sheet complete etc. as per drawing, make(A very or 3M) and direction of Engineer-in-Charge.(Payment shall be made for flat area of sheet)	15.00 sqm	sqm	7,322.10		109,832.00
20.00	Supplying and Placing Teak sand stone planter of dia 750mm x Height 625mm as per approved design of Indian stone corporation or equivalent all complete as per Engineer in charge.	25.00 Nos	each	31,056.50		776,413.00
21.00	Supplying and Placing Red sand stone planter of dia 600mm x Height 750mm as per approved design of Indian stone corporation or equivalent all complete as per Engineer in charge.	25.00 Nos	each	23,822.40		595,560.00
22.00	Providing & Fixing stainless steel 150mm dia & 8mm thick round plate duly laser cut & duly engraved text for service line 2mm deep as per design & fixed with 3nos counter sunk SS screws etc. on existing 30mm thick polished / flame finished granite pavings/ foot path in recess all complete as per drawing & direction of Engineer in charge. (granite stone paving shall be paid seperatly)	50.00 Nos.	each	5,043.70		252,185.00
	<b>Total :</b>				10,900,688.00	5,733,243.00
	<b>Total .....cost A+B</b>				16,633,931.00	
	<b>Add Cost Index 15.69% on DSR Item</b>				1,710,318.00	
	<b>TOTAL</b>				18,344,249.00	
	<b>Less 9.50% on DSR-2016 items</b>				(1,035,565.00)	
	<b>TOTAL</b>				17,308,684.00	

#### Sub-Head-4:- Construction of Fire tank & Pump Room

S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	<b>Sub Head 1 : SITE CLEARANCE AND DISMANTLING</b>					
1.01	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer-in-charge.					
	a) 1:3:6 or richer mix	78.00 cum	cum	997.05	77,770.00	-
	b) 1:4:8 or leaner mix	47.00 cum	cum	615.15	28,912.00	-
1.02	Dismantling precast concrete or stone slabs in paving, floorings, walls, partition walls etc. including stacking within 50 metres lead:					
	b) Thickness above 40 mm upto 75 mm	312.00 sqm	sqm	179.70	56,066.00	-

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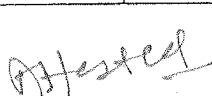
  
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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
1.03	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	129.00 cum	cum	120.55	15,551.00	-
Total : Sub Head No : 1					178,299.00	-
<b>Sub Head 2 : EARTHWORK</b>						
2.01	Earth work in excavation by mechanical means (Hydraulic Excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
	a) All kinds of soil	50.00 cum	cum	166.40	8,320.00	-
2.02	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.					
	a) All kinds of soil	1176.00 cum	cum	125.95	148,117.00	-
2.03	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.					
	a) All kinds of soil	588.00 cum	cum	51.75	30,429.00	-
2.04	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :					
	a) All kinds of soil					
	i) Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	50.00 m	m	225.45	11,273.00	-
2.05	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	490.00 cum	cum	125.75	61,618.00	-
2.06	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed :					
	a) All kinds of soil	200.00 sqm	sqm	53.00	10,600.00	-
Total : Sub Head No. 2					270,357.00	-
<b>Sub Head 3 : CEMENT CONCRETE WORK</b>						
3.01	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :					
	a) 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	8.00 cum	cum	5,481.95	43,856.00	-

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
3.02	Providing and laying in position ready mixed plain cement concrete, using fly ash and cement content as per approved design mix and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, excluding the cost of centering, shuttering and finishing, including cost of curing, admixtures in recommended proportions as per IS : 9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.					
	a) M-15 grade plain cement concrete (cement content considered @ 240 kg/cum)	2.00 cum	cum	6,066.50	12,133.00	-
	b) M-10 grade plain cement concrete (cement content considered @ 220 kg/cum)	33.00 cum	cum	5,927.55	195,609.00	-
	<b>Total : Sub Head No. 3</b>				<b>251,598.00</b>	<b>-</b>
	<b>Sub Head 4 : REINFORCED CEMENT CONCRETE WORK</b>					
4.01	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete,improve workability without impairing strength and durability as per direction of the Engineer-in-charge.					
	a) All works upto plinth level	307.00 cum	cum	6,713.60	2,061,075.00	-
	b) All works above plinth level upto floor V level	3.00 cum	cum	7,517.20	22,552.00	-
4.02	Extra for providing richer mixes at all floor levels.					
	Note:- Excess/less cement over the specified cement content used is payable /recoverable separately.					
	a) Providing M-30 grade concrete instead of M-25 grade BMC /RMC. (Note:- Cement content considered in M-30 is @ 340 kg/kg/cum)	246.00 cum	cum	69.50	17,097.00	-
4.03	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	a) Thermo-Mechanically Treated bars grade FE 500 D as per IS1786	36840.00 Kg.	Kg.	56.60	2,085,144.00	-
4.04	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.					
	a) Thermo-Mechanically Treated bars grade FE 500 D as per IS1786	303.00 Kg.	Kg.	56.60	17,150.00	-
4.05	Centering and shuttering including strutting, propping etc. and removal of form for :					
	a) Foundations, footings, bases of columns, etc. for mass concrete.	109.00 sqm	sqm	193.95	21,141.00	-

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	b) Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	939.00 sqm	sqm	378.60	355,505.00	-
	c) Suspended floors, roofs, landings, balconies and access platform	348.00 sqm	sqm	422.30	146,960.00	-
	d) Lintels, beams, plinth beams, girders, bressumers and cantilevers	50.00 sqm	sqm	342.90	17,145.00	-
	<b>Total : Sub Head No. 4</b>				<b>4,743,769.00</b>	<b>-</b>
	<b>Sub Head 5 : BRICK WORK</b>					
5.01	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
	a) Cement mortar 1:6 (1 cement : 6 coarse sand)	4.00 cum	cum	4,751.65	19,007.00	-
5.02	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :					
	a) Cement mortar 1:6 (1 cement : 6 coarse sand)	10.00 cum	cum	5,582.85	55,829.00	-
	<b>Total : Sub Head No. 5</b>				<b>74,836.00</b>	<b>-</b>
	<b>Sub Head 6 : STONE WORK</b>					
6.01	Stone work (machine cut edges) for wall lining etc. (veneer work) backing filled with a grout of 12mm thick cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade : (To be secured to the backing by means of cramps which shall be paid for separately) :					
	a) Red sand stone - exposed face fine dressed with rough backing					
	l) 40 mm thick.	50.00 sqm	sqm	2,462.90	123,145.00	-
	b) White sand stone - exposed face fine dressed with rough backing.					
	l) 40 mm thick.	50.00 sqm	sqm	2,493.65	124,683.00	-
	<b>Total : Sub Head No. 6</b>				<b>247,828.00</b>	<b>-</b>
	<b>Sub Head 7 : STEEL WORK</b>					
7.01	Steel work in built up tubular ( round, square or rectangular hollow tubes etc.) for frame work, gate, trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete	100.00 Kg.	kg	112.20	11,220.00	-
	a) Electric resistance or induction butt welded tubes.					
7.02	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
	a) In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works kg 90.10	500.00 Kg.	kg	85.95	42,975.00	-
	<b>Total : Sub Head No. 7</b>				<b>54,195.00</b>	<b>-</b>

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
	<b>Sub Head 8 : FLOORING</b>					
9.01	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.					
	a) 40mm thick with 20 mm nominal size stone aggregate	240.00 sqm	sqm	362.60	87,024.00	-
	<b>Total : Sub Head No. 8</b>				<b>87,024.00</b>	-
	<b>Sub Head 9 : FINISHING &amp; MISCELLANEOUS WORKS</b>					
9.01	Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour					
	a) Two coats	100.00 sqm	sqm	73.90	7,390.00	-
9.02	Finishing walls with textured exterior paint of required shade : New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	100.00 sqm	sqm	150.65	15,065.00	-
9.03	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @0.90 ltr/10 sum over an under coat of primer applied @ 0.80 ltr/ 10 sum of approved brand or manufacture	100.00 sqm	sqm	84.75	8,475.00	-
9.04	12 mm cement plaster of mix :					
	a) 1:6 (1 cement : 6 coarse sand)	200.00 sqm	sqm	168.25	33,650.00	-
9.05	15 mm cement plaster on rough side of single or half brick wall of mix :					
	a) 1:6 (1 cement : 6 coarse sand)	100.00 sqm	sqm	194.60	19,460.00	-
9.06	12 mm cement plaster finished with a floating coat of neat cement of mix :	1228.00 sqm	sqm	226.80	278,510.00	-
	a) 1:3 (1 cement: 3 fine sand)					
9.07	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : (i) 1st layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. (ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. (iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cum/sqm thoroughly embedded in the 2nd layer. a) Using rough kota stone.	322.00 sqm	sqm	1,017.55	327,651.00	-

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### Schedule of Work

**Sub-Head-1:- Point Wirings, Distribution Boards, Earthing, Cabling, Light Fixtures and Fans.**

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
20.10	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube/lamp etc., including supplying and fixing ball and socket arrangement, 2 Nos. down rods of 20 mm dia X 1.6 mm thick steel conduit upto 30 cm length, painting and wiring the down rods and connections with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	19.00	Each	247.00	4,693.00	-
20.11	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	12.00	Each	132.00	1,584.00	-
20.12	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required. (a) Upto 450 mm sweep	39.00	Each	224.00	8,736.00	-
20.13	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	12.00	Each	130.10	1,561.00	-
<b>Total of SH-20 Rs.</b>					<b>293,997.00</b>	<b>-</b>
<b>(SH:- 21 Distribution Boards and Panel)</b>						
21.01	Supplying and fixing following way prewired SP&N MCB distribution board of steel sheet for 240 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator) (a) 2 + 4 way/ 6 way, Double door (b) 2 + 8 way/ 10 way, Double door	11.00	Nos.	2508.00	27,588.00	-
		5.00	Nos.	2995.00	14,975.00	-
21.02	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. (a) Single pole (b) Double pole	63.00	Nos.	173.00	10,899.00	-
		16.00	Nos.	463.00	7,408.00	-
21.03	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	21.00	Nos.	7.00	147.00	-
21.04	Fabrication, supplying and installation of outdoor type cubical feeder pillar of size 1200 mm x 1200 mm x 500 mm made out of M.S. sheet 2mm thick (14 SWG) duly compartmentalized having 4 strip busbar of 200 Amp capacity double door with locking arrangement for protection from rain, dust, duly fixed on MS angle iron frame work of size 40mm x 40mm x 6mm (NS) 40 cm long legs out of which 20 cm duly grouted in cement concrete 1:2:4 (1 cement : 2 sand : 4 stone aggregate 20mm) and having following accessories mounted inside the cubical panel i/c connection, inter connection with aluminium thimbles, earthing with two nos. earth struds duly painted with one coat of red oxide & two coats of superior quality enamel paint complete etc. as reqd. (a) 63 Amp 4 pole MCB - 'C' Series - 1 No. (b) Power Contactor - 3 Pole, 40 Amp- 1 No. (c) Analog Timer (L&T) - 1 No. (d) 2 way Toggle Switch - 1 No. (e) Push Button - 2 Nos. (f) LED Indicating Lamp (3 Nos.) - 1 Set (g) 63 Amp ELCB - 1 No.	4.00	Job	50237.00	-	200,948.00
<b>Total of SH-21 Rs.</b>					<b>61,017.00</b>	<b>200,948.00</b>

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
<b>(SH:- 22 Earthing)</b>						
22.01	Earthing with G.I. earth pipe 4.5 meter long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	58.00	Nos.	3672.00	212,976.00	-
22.02	Providing and laying earth connection from earth electrode with 6 SWG dia G.I. Wire in 15 mm dia G.I. pipe from earth electrode including connection with G.I. thimble excavation and re-filling as required.	80.00	Mtrs.	134.00	10,720.00	-
22.03	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	160.00	Mtrs.	37.00	5,920.00	-
<b>Total of SH-22</b>		<b>Rs.</b>			<b>229,616.00</b>	<b>-</b>
<b>(SH:- 23 Cable, Cable Tray and Miscellaneous Items)</b>						
23.01	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in the existing RCC/ HUME/ METAL pipe as required. (a) Upto 35 sq. mm	6500.00	Mtrs.	18.00	117,000.00	-
23.02	Supplying of following size PVC insulated and PVC sheathed/ XLPE aluminum conductor armoured power cable of 1.1 KV grade as required. (a) 4 x 10 sq.mm	6000.00	Mtrs.	113.00	-	678000.00
	(b) 3.5 x 35 sq.mm	500.00	Mtrs.	190.00	-	95000.00
23.03	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required. (a) 4 X 10 sq. mm (25 mm)	220.00	Nos.	203.00	44,660.00	-
	(b) 3½ X 35 sq. mm (32mm)	8.00	Nos.	282.00	2,256.00	-
23.04	Supplying and laying of one number Double walled corrugated high density polyethylene pipe having corrugation on the outer wall and plain surface inner wall conforming to IS: 14930 Part- I and II complete with necessary HDPE fitting for protection of 1.1KV grade under ground cable directly in ground at a depth of 60cm including excavating and refilling the trench etc. as required. (a) 40 mm outer dia	150.00	Mtrs.	178.70	-	26805.00
	(b) 77 mm outer dia	50.00	Mtrs.	290.88	-	14544.00
	(c) 150 mm outer dia	5424.00	Mtrs.	958.85	-	5200802.00
23.05	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	13000.00	Mtrs.	23.00	299,000.00	-
<b>Total of SH-23</b>		<b>Rs.</b>			<b>462,916.00</b>	<b>6,015,151.00</b>
<b>(SH:- 24 Light Fixtures and Fans)</b>						
24.01	Supplying of surface mounted 15W glarefree opal diffuser LED round downlight. Total system lumen of 15W to 18W LED should be 1200 or above in cool day light (5700K to 6500K), power factor>0.95, CRI>80, LED lamp Make- Cree, Nichia, Philips Lumiled, Osram, Edison, LED lamp efficacy>120 Lm/W. complete with all accessories, testing & commissioning etc. along with as required.	17.00	Nos.	1172.00	-	19924.00
24.02	Supplying of 6000K (1200 mm) energy efficient LED wall mounted light luminaries, extruded aluminium heat sink provided for efficient heat dissipation & integrated electronic driver, suitable to work 230 volt AC supply complete with connection etc. with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required at site. The luminaries shall be submitted with LM-80 report with a life of 50000 hours @ L-70 and LED photo biological safety report conforming to IEC 62471 & LED source manufacturer and LM-79 report from NABL accredited lab. The LED chip should be of Cree, Nichia, Philips Lumiled, Osram, Edison.	53.00	Nos.	853.00	-	45209.00

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S.No.	Description	Quantity	Unit	Rate	Amount for DSR Items	Amount for Non DSR Items
24.03	Supplying of Heavy duty exhaust fan of 300 mm sweep size, 900 rpm speed with shutter & louvers in the existing opening alongwith connection, testing & commissioning etc. as required.	34.00	Nos.	3011.00	-	102374.00
24.04	Supplying, installation, testing & commissioning of energy efficient 1200 mm sweep size ceiling fan, including wiring the down rod of standard length (up to 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable including providing phenolic laminated sheet cover on fan box etc. as required.	12.00	Nos.	2109.00	-	25308.00
24.05	Supplying, installation, testing & commissioning of LED decorative post top lantern, painted stainless steel body, with embellishments of aluminium, structured acrylic protector, IP 66 optical block, IP 44 control gear compartment, offered with symmetric or asymmetric light distribution, suitable for post top on male threaded top section, secured by a counter nut on the existing street light pole with the help of suitable accessories i/c testing, commissioning etc. completed as reqd. Light fixture and Lamp (a) Type : LED Postop Luminaire, Make : Keslec RIGA 75 W NW LED ASYM POST TOP	170.00	each	37,939.00	-	6,449,630.00
24.06	Supply erection and commissioning of 4m high G.I tubular pole 'T' washed, primed and painted, made in two sections bottom section of 1m having a dia of 140mm and top section of 3m having a dia of 76mm. The column shall also be provided with flush door at the bottom with proper strengthening to the cutout of the door opening. A junction/looping box with 32 Amps. Heavy duty connector shall be built into the pole. (Keslec Private Ltd Cat. Ref.: NEMO Pole 4m in GI with Base Plate 1 or equivalent)	170.00	each	22,038.00	-	3,746,460.00
	Total of SH-24 Rs.				-	10,388,905.00
	Total				1,047,546.00	16,605,004.00
	Tota				17,652,550.00	
	Add Cost Index 15.69% on DSR Item				164,360.00	
	TOTAL				17,816,910.00	
	Less 9.50% on DSR-2016 items				(99,517.00)	
	TOTAL				17,717,393.00	

### Sub-Head-2:- West Riser System - Pumping Equipments.

S. No.	Sub Head - I - (Wet Riser System - Pumping Equipments)	Qty.	Unit	Rate	Amount
1	Supply, Installation, Testing and Commissioning of <b>Electric Driven Main Fire Pump</b> suitable for auto operation & consisting of following: complete in <b>all</b> respect as required. a) Horizontal Split casing type, centrifugal, multistage, pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq. cm. at highest and farthest outlet at specified flow of 2850 lpm at 95 Mtr. head confirming to IS 1520. b) Suitable HP (Minimum 100 hp) squirrel cage induction motor, TEFC synchronous speed 1500 RPM (with permissible slip), suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-' F' insulation, confirming to IS-325. c) Common base frame fabricated out of M.S channel of suitable size, flexible coupling, coupling guard, foundation bolts and pressure gauge with valve etc. Suitable cement concrete foundation duly plastered, with anti vibration pads etc. complete as per manufacturer's design & standards and as per detailed specifications.	3	Set	446566	1339698

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S. No.	Sub Head - I - (Wet Riser System - Pumping Equipments)	Qty.	Unit	Rate	Amount
2	<p>Supply, Installation, Testing and Commissioning of <b>Diesel Engine Driven Main Fire Pump</b> suitable for auto operation and consisting of following: complete in all respect as required.</p> <p>a) Horizontal Split casing type, centrifugal, multistage pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of 2850lpm at 95 Mtr. head confirming to IS 1520.</p> <p>b) Suitable HP (Minimum 100 hp) 1500 RPM, 4 stroke, cold starting type Diesel Engine with Heat Exchanger confirming to relevant BIS &amp; IS Standards, complete with all required accessories / system, fuel oil filter, lubricant oil pump with filter, 2 Nos. starting batteries of 180 AH capacity each with suitable angle iron stand, engine starting panel having all the controls meters, gauges, tachometer, hour meters, starting switch with keys for manual starting, auto starting mechanism, 24 Volts electric starting equipment, Diesel Tank for 8 hrs continuous running of diesel engine, having minimum capacity of 200 Ltrs. (tank made out of 3mm thick M.S. Sheet with filling Cap, drain Cock, diesel indicator duly mounted on M.S. angle) exhaust pipe of minimum 30 Metre length, duly insulated with 50 mm. thick glass wool with 1.0 mm. thick aluminium sheet cladding, exhaust residential silencer, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc. as required.</p> <p>M.S. fabricated Common base frame, flexible coupling, coupling guard, foundation bolts and pressure gauge with valve etc. Suitable cement concrete foundation duly plastered, with anti vibration pads etc. complete as per manufacturer's design &amp; standards and as per detailed specifications.</p>	2	Set	767903	1535806
3	<p>Supplying, Installation, Testing and Commissioning of <b>Electric Driven Pressurization Pump (Jockey Pump)</b> suitable for auto operation and consisting of following: complete in all respects as required.</p> <p>a) Horizontal type, centrifugal end suction type pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal, gland packing and flow of 180 lpm at 95 Mtr. head confirming to IS:1520.</p> <p>b) Suitable HP (Minimum 10 HP) squirrel cage induction motor TEFC type 2900 RPM suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class - 'F' insulation, confirming to IS:325.</p> <p>c) Common base frame fabricated out of M.S channel of suitable size, flexible coupling, coupling guard, foundation bolts and pressure gauge with valve etc. Suitable cement concrete foundation duly plastered, with anti vibration pads etc. complete as per manufacturer's design &amp; standards and as per detailed specifications.</p>	3	Set	104010	312030
4	<p>Fabricating, Supplying, Installation, Testing and Commissioning <b>Air Vessel</b> of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes</p> <p>2 Meter high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump &amp; Diesel Engine Driven Fire Pump</p>	3	Each	66137	198411

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S. No.	Sub Head - I - (Wet Riser System - Pumping Equipments)	Qty.	Unit	Rate	Amount
5	Supply, Installation, testing and commissioning of pressure switches for Hydrant / Diesel Engine Driven Pump / Jockey Pumps; diaphragm type; adjustable range from 0-9 bar and a regulation range of 0.1 1.5 bar direct mounted SNAP acting type made from die cast aluminium with epoxy powder coated finish and SS316 diaphragm and other wetted parts, including necessary wiring upto control panel & other materials as required as per specifications.	8	Each	7235	57880
	<b>Sub Head - II- (Piping, Valves and Accessories)</b>				
	<b>SLTC of M.S. pipe on surface</b>				
1	Supplying, laying, fixing, testing and commissioning of following sizes (NB) of ISI marked heavy class M.S. pipes including cutting, threading, welding etc. and providing all fittings e.g. elbows, reducers, clamps, hangers, flanges, gaskets, nuts, bolts and washers etc. including painting of pipes and fittings with red paint over a coat of ready mixed primer, both of approved quality and shade including cutting holes and chases in brick or RCC walls/slabs and making good the same etc. complete in all respect as required.				
(a)	200 mm dia (6mm thick)	50	Metre	2935	146750
(b)	150 mm dia	100	Metre	1809	180900
(c)	100 mm dia	100	Metre	1278	127800
2	Providing & fixing of heavy class class M.S. pipes conforming to IS: 1239 complete with fittings including trenching and refilling etc. (external work) including all fittings and accessories like tees, elbows, flanged joints, rubber insertion, nuts, bolts or cutting and welding joints. Cost shall be inclusive of excavation, dewatering, backfilling, ramming surrounding the pipe alround with minimum 150 mm thick compacted silver sand and providing thrust block at distance specified as per specifications. (Pipe shall be provided with anti crossive protective treatment confirming to IS: 10221 standard complete as per specification). All work complete as per specification and as directed by Engineer-In-Charge. (All the fitting i.e. tee /elbow etc. for Valve connections etc. will be flanged joints)				
(a)	150 mm dia	30	Meter	1909	57270
(b)	80 mm dia	30	Meter	1129	33870
3	Providing, Installation, Testing and Commissioning of double flanged cast iron <b>Non-Return Valve</b> , PN 1.6 of following sizes confirming to IS : 5312 complete with rubber gasket, GI bolts, nuts, washers etc. as required.				
(a)	150 mm dia	5	Each	9492	47460
4	Supply, Installation, Testing and Commissioning of 150 mm dia Bourden type, Stainless Steel dial type <b>Pressure Gauge</b> including brass isolation valve and siphon pipe having calibration of 0 - 16 Kg / cm <sup>2</sup> complete as required.	11	Each	471	5181
5	Supplying, Installation, Testing and Commissioning of CI body flanged (both ends) type serviceable suction / Y <b>strainer</b> with (stainless steel) conforming to relevant IS specifications amended upto date complete including providing and fixing nuts, bolts, washers, gaskets etc. complete as required.				
(a)	200 mm dia	5	Each	9057	45285

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S. No.	Sub Head - I - (Wet Riser System - Pumping Equipments)	Qty.	Unit	Rate	Amount
6	Providing and fixing of Cast Iron Rising Spindle Gate Sluice valve PN 16 (Flanged) rating hand wheel operated, stain less steel stem with gun metal parts, Nut, bolts & washers etc.complete as required as per specification.				
(a)	150 mm dia	12	Each	12901	154812
(b)	200 mm dia	3	Each	21744	65232
	<b>Sub Head - III - (Fire Extinguishers)</b>				
1	Supply, installation, testing and commissioning of ISI marked (IS:15683) portable chemical fire extinguisher, water (gas pressure) type capacity 9 litres with gun metal cap and nozzle and complete in all respects including initial fill and wall suspension brackets as required as per specifications.	6	Each	2467	14802
2	Providing and fixing fire extinguisher of carbon dioxide type consisting of brand new high pressure steel cylinder bearing IS: 7285 mark and having the approval of controller of explosives Nagpur, wheel type valve bearing IS:3224 mark internal discharge tube, 1 meter long high pressure discharge hose, non conducting horn, suspension bracket, fully charged bearing IS: making fixed to wall as directed.				
(a)	4.5kg capacity cylinder	6	Each	6458	38748
3	Providing and fixing portable fire extinguisher, dry powder type (gas cartridge) with cylinder initially fully charged with dry powder (ABC type) of 6 Kg. complete with standard discharge valve with tube, CI bracket for wall mounting etc. conforming IS : 15683:2006	6	Each	2819	16914
	<b>Sub Head - IV (Motor Control Panels)</b>				
1	Supply, installation, testing and commissioning of fire control panel metal clad type suitable for 415 V AC three phase 4 wire 50Hz supply system. The panel shall be suitable for automatic operation of the fire pumps as per the specified parameters. The panel shall be completely compartmentalised and complete with relays, contactors, starters, Aluminium Bus Bars, designation labels as per requirement, continuous earth bar, panel separators, protective screens, cable clamping support system, top/bottom cable gland plates for incoming and out going cable entries as per details given below:				
	<b>INCOMING</b>				
	400A 35KA TPN MCCB with rotary handles - 1 No.				
	<b>BUSBARS</b>				
	A set of 500A 415V 50Hz 3 Ph 4 wire aluminium busbars.				
	<b>INSTRUMENTS FOR INCOMER</b>				
	A set of instrumentation with a set of Current transformer 400/5A with Ammeter 0-400A, Selector Switch, Voltmeter 0-500V with selector switch and a set of phase-RYB indicating lights with MCB and energy meter				
	Provision for BMS connectivity. The panel should have sufficient no. of potential free contacts for connectivity with Building Management System for monitoring purposes				
	<b>INSTRUMENTS ON OUTGOINGS</b>				
	A set of instrumentation with ammeter with selector switch and current transformer each pump.				
	Indication lights for ON-OFF indication for each fire pump				
	<b>OUTGOING FEEDERS</b>				
	<b>For Hydrant Pump</b>				
	315A TP 35 KA MCCB with phase spreader with rotary handle, 150HP DOL starter, overload relay, single phase preventer, timer etc. - 1 No.				
	<b>For Jockey Pump</b>				

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Sub Head - I - (Wet Riser System - Pumping Equipments)		Qty.	Unit	Rate	Amount
63A TP 25KA MCCB with rotary handle, 10 HP DOL starter, overload relay, single phase preventer, timer etc. - 1 No.					
<b>For Diesel Engine Operated Pump</b>					
AMF logic control for auto starting of the diesel engine operated pump when the electric driven pumps fail to start. The control cubicle shall consist of MCBs, 12/24V battery charger, DC ammeter and voltmeters, indicating lights, push buttons, hooter, lockout timers, interlocking relay, fuel level indicators etc. as required.					
<b>Control wiring</b> , auxiliary switches and timer for automatic starting and stopping of Jockey and electric driven pump with externally mounted pressure switches. The control wiring shall be done in such a way that the Jockey pump shall start when the pressure falls to 7.8 Kg/sq.cm and stops at 8.8 Kg/sq.cm pressure and Main fire pump shall start when the pressure drops below 6.8 Kg/sq.cm. and stops when the pressure builds above 8.8 Kg/sq.cm. Jockey pump shall stop when the main pump is working. Suitable timers shall be used for starting and stopping of the pumps operation.		2	Sets	352965	705930
2	Supply, installation, testing and commissioning of <b>fire control panel</b> metal clad type suitable for 415 V AC three phase 4 wire 50Hz supply system. The panel shall be suitable for automatic operation of the fire pumps as per the specified parameters. The panel shall be completely compartmentalised and complete with relays, contactors, starters, Aluminium Bus Bars, designation labels as per requirement, continuous earth bar, panel separators, protective screens, cable clamping support system, top/bottom cable gland plates for incoming and out going cable entries as per details given below:				
<b>INCOMING</b>					
400A 35KA TPN MCCB with rotary handles - 1 No.					
<b>BUSBARS</b>					
A set of 500A 415V 50Hz 3 Ph 4 wire aluminium busbars.					
<b>INSTRUMENTS FOR INCOMER</b>					
A set of instrumentation with a set of Current transformer 400/5A with Ammeter 0-400A, Selector Switch, Voltmeter 0-500V with selector switch and a set of phase-RYB indicating lights with MCB and energy meter					
Provision for BMS connectivity. The panel should have sufficient no. of potential free contacts for connectivity with Building Management System for monitoring purposes					
<b>INSTRUMENTS ON OUTGOINGS</b>					
A set of instrumentation with ammeter with selector switch and current transformer each pump.					
Indication lights for ON-OFF indication for each fire pump					
<b>OUTGOING FEEDERS</b>					
<b>For Hydrant Pump</b>					
315A TP 35 KA MCCB with phase spreader with rotary handle, 150HP DOL starter, overload relay, single phase preventer, timer etc. - 1 No.					
<b>For Jockey Pump</b>					
63A TP 25KA MCCB with rotary handle, 10 HP DOL starter, overload relay, single phase preventer, timer etc. - 1 No.					
<b>Control wiring</b> , auxiliary switches and timer for automatic starting and stopping of Jockey and electric driven pump with externally mounted pressure switches. The control wiring shall be done in such a way that the Jockey pump shall start when the pressure falls to 7.8 Kg/sq.cm and stops at 8.8 Kg/sq.cm pressure and Main fire pump shall start when the pressure drops below 6.8 Kg/sq.cm. and stops when the pressure builds above 8.8 Kg/sq.cm. Jockey pump shall stop when the main pump is working. Suitable timers shall be used for starting and stopping of the pumps operation.		1	Set	352965	352965

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 कार्यपालक अभियन्ता

लो.नि.वि. (दि.स.) स.अनु.मं. एम-241

लोक नायक सेतू पश्चिमी तट

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S. No.	Sub Head - I - (Wet Riser System - Pumping Equipments)	Qty.	Unit	Rate	Amount
	<b>CABLES</b>				
3	Supply of following sizes of XLPE insulated PVC sheathed armoured aluminium conductor cable of 1.1 KV grade on existing cable tray / surface including clamps, ties etc. as required.				
(a)	3 Core 16 Sqmm.	100	Mtrs.	122	12200
(b)	3 Core 70 Sqmm.	100	Mtrs.	312	31200
(c)	3 Core 185 Sqmm.	100	Mtrs.	434	43400
(d)	4 core x 2.5 Sq mm copper conductor armoured control cable.	100	Mtrs.	163	16300
4	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe/open duct as required.				
(a)	Upto 35 sq. mm	200	Mtrs.	14	2800
(b)	Above 35 sq. mm and upto 95 sq. mm	100	Mtrs.	22	2200
(c)	Above 95 sq. mm and upto 185 sq. mm	100	Mtrs.	31	3100
5	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
(a)	3 X 16 sq. mm (25mm)	12	Set	202	2424
(b)	3 X 70 Sqmm.	12	Set	361	4332
(c)	3 X 185 sq. mm (38mm)	12	Set	792	9504
(d)	4 core x 2.5 Sq mm copper conductor armoured control cable.	30	Set	203	6090
6	Fabricating and Installing following size of perforated Hot dip G.I cable tray including horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with MS suspenders and including painting etc. as required.				
(a)	300 mm width x 50 mm depth x 1.6 mm thickness	80	Metre	698	55840
(b)	150 mm width x 50 mm depth x 1.6 mm thickness	100	Metre	496	49600
7	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	6	Nos.	4490	26940
8	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. Pipe. PRLSom earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	50	Mtrs.	421	21050
9	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	150	Metre	142	21300
	<b>Total</b>				<b>5746024</b>
	<b>SUB HEAD - V - OPERATION AND MAINTENACE FOR FIRE FIGHTING WORK</b>				
1	Supplying all labour, components, consumable for smooth operation and Comprehensive Annual Maintenance of the complete Fire Fighting System for 60 Months after expiry of 1st year of guarantee period as per the scope of the work and specifications given in the tender. The Item includes cost of deployment of required number of experienced manpower, tools, tackles, parts, spares, equipments, consumables and all such material required for smooth and uninterrupted working of the complete Building Management System, operating on daily basis for 24 Hours for 3 nos. pump house.				

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S. No.	Sub Head - I - (Wet Riser System - Pumping Equipments)	Qty.	Unit	Rate	Amount
	Operation for in guarantee period (by deploying following staff)				
	Fire Operator - 9 Nos. Helper - 1 No.				
(a)	1st Year (in Guarantee period)	1	Job	2710920	2710920
(b)	1st Year (After Guarantee period)	1	Job	2982012	2982012
(c)	2nd Year (After Guarantee period)	1	Job	3280213	3280213
(d)	3rd Year (After Guarantee period)	1	Job	3608235	3608235
(e)	4th Year (After Guarantee period)	1	Job	3969058	3969058
(f)	5th Year (After Guarantee period)	1	Job	4365964	4365964
2	Comprehensive maintenance				
(a)	1st Year (After Guarantee period)	1	Job	287301	287301
(b)	2nd Year (After Guarantee period)	1	Job	317212	317212
(c)	3rd Year (After Guarantee period)	1	Job	348933	348933
(d)	4th Year (After Guarantee period)	1	Job	383827	383827
(e)	5th Year (After Guarantee period)	1	Job	422209	422209
	Total of Operation for in guarantee period				22675884
	Total for Fire Fighting system				5746024
	Grand Total				28421908

Assistant Engineer (E) P

Executive Engineer (P)

Superintending Engineer/Project

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## GENERAL ABSTRACT

Name of work:- Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work)

Sl. No.	Description	Amount
<b>A</b>	<b>Civil Work</b>	
SH:-1.	Main Road , Pavings , Tube well & Redevelopment	Rs. 29,14,49,617/-
SH:-2.	Street Components in Median (toilets and other Buildings)	Rs. 2,07,10,740/-
SH:-3.	Signage and Decorative Stone works.	Rs. 1,73,08,684/-
SH:-4.	Civil works for Fire tanks and Pump rooms	Rs. 66,58,598/-
<b>B.</b>	<b>Electrical work</b>	
SH:-1.	Point Wirings, Distribution Boards, Earthing, Cabling, Light Fixtures and Fans	Rs. 1,77,17,393/-
SH:-2.	West Riser System - Pumping Equipments.	Rs. 2,84,21,908/-
<b>TOTAL</b>		<b>Rs. 38,22,66,940/-</b>

Executive Engineer  
SRD Division-I, PWD.

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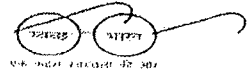
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लो.पि.वि. (वि.स.) सं.नं.प. २०२४  
लोक नायक सेतु परियोजना, गेट  
नई दिल्ली-110002

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राष्ट्रीय राजधानी क्षेत्र दिल्ली सरकार  
GOVT. OF NATIONAL CAPITAL TERRITORY OF DELHI  
लोक निर्माण विभाग  
PUBLIC WORKS DEPARTMENT



कार्यालय मुख्य अभियंता  
पूर्व अंचल (एम), लोक निर्माण विभाग,  
दिल्ली सरकार, तृतीय तल, एम.एस.ओ. भवन,  
इन्द्रप्रस्थ एस्टेट, नई दिल्ली - 110002

OFFICE OF THE CHIEF ENGINEER  
EAST ZONE (M) PWD,  
GNCTD, 3<sup>rd</sup> Floor, M.S.O. Building,  
I.P. Estate, New Delhi - 110002.

संख्या: 24(विविध) / का0अभि0 / मु0अभि0(पूर्व) /  
प्रा सं: 54 (342) / को. अभि. / एम. आर. डी. / लो. नि. वि. / 21819/266 dt. 14.02.2019

दिनांक: 14.2.2019

**CORRIGENDUM-1 (CIVIL)**

कार्य का नाम: Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque.  
(SH:- Civil & Electrical Work).

NIT No. :- 02/NIT/CE(East)/PWD/2018-19  
98/EE/SRD-I/PWD/2018-19

ESTIMATED COST :- Rs. 38,22,66,940/- (Civil Rs. 33,61,27,639/- + Elect.  
Rs. 4,61,39,301/-)

TENDER ID No. :- 2019\_PWD\_167676\_1

In the NIT of above said work following modifications are made:-

Sr. No	Reference of NIT	Page No.	Existing	Modified
1	1.3 1.3.1 Press Notice (E-Procurement)	5	1.3 For Non-CPWD Registered Contractor.  1.3.1 Non registered agencies having the experience of building / road works as mentioned below:  i. One work of Rs. 3058 Lakhs. Either / OR ii. Two work of Rs. 2293 Lakhs. Either / OR iii. Three work of Rs. 1529 Lakhs.  Similar work shall means "Civil Road & Building Works".	1.3 For Non-CPWD Registered Contractor.  1.3.1 Non registered agencies having the experience of building / road works as mentioned below:  i. One work of Rs. 3058 Lakhs each. Either / OR ii. Two work of Rs. 2293 Lakhs each. Either / OR iii. Three work of Rs. 1529 Lakhs each.  COMPLETED IN THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF BID. Similar work shall means "Civil Road/ Building Works".

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2	1.3 1.3.1 under CPWD-6	8	<p><b>1.3 For Non-CPWD Registered Contractor</b></p> <p>1.3.1 Non registered agencies having the experience of building / road works as mentioned below:</p> <ol style="list-style-type: none"> <li>One work of Rs. 3058 Lakhs. Either / OR</li> <li>Two work of Rs. 2293 Lakhs. Either / OR</li> <li>Three work of Rs. 1529 Lakhs.</li> </ol> <p>Similar work shall means "Civil Road &amp; Building Works".</p>	<p><b>1.3 For Non-CPWD Registered Contractor</b></p> <p>1.3.1 Non registered agencies having the experience of building / road works as mentioned below:</p> <ol style="list-style-type: none"> <li>One work of Rs. 3058 Lakhs each. Either / OR</li> <li>Two work of Rs. 2293 Lakhs each. Either / OR</li> <li>Three work of Rs. 1529 Lakhs each.</li> </ol> <p><b>COMPLETED IN THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF BID.</b></p> <p>Similar work shall means "Civil Road/ Building Works".</p>
3.	<p><b>Schedule-F</b></p> <p>(i) Clause-10CC</p> <p>(ii) Component of material</p> <p>.....</p> <p>(iii) Component of labour</p> <p>.....</p>	<p>77</p> <p>77</p> <p>78</p>	<p>Applicable</p> <p>40%</p> <p>25%</p>	<p>Not Applicable</p> <p>Nil</p> <p>Nil</p>
4	<b>SALIENT HIGHLIGHTS OF THE TENDER</b>	80	<p><b>SALIENT HIGHLIGHTS OF THE TENDER</b></p> <p>7. Quality Assurance</p> <p>7.4 – No Provision taken in the Approved and uploaded NIT.</p> <p>7.5 – No Provision taken in the Approved and uploaded NIT.</p>	<p><b>SALIENT HIGHLIGHTS OF THE TENDER</b></p> <p>7. Quality Assurance</p> <p>7.4 Similarly, the contractor shall submit brand/make of various material to be used for the approval of the Engineer-In-Charge alongwith samples and once approve, he shall stick to it. Any change will have to be got approved from Engineer-In-Charge in advance.</p> <p>7.5 Unless otherwise specified in the schedule of quantities the rates for all items shall be considered as inclusive of pumping/balling out water, if necessary, for which no extra payment shall be made. These conditions shall be considered to include water from any source such as rain, flood, surface and sub-soil water etc. and shall apply to the execution in any session.</p>

			7.6 - No Provision taken in the Approved and uploaded NIT.	7.6 HOUSING, WATER SUPPLY DRAINAGE AND ELECTRICITY - The Contractor shall not be allowed to construct labour huts at the site of work. The Contractor has to make his own arrangements for electric connection, stores and field offices etc. including drainage arrangements. Contractor should visit the site and see in what manner he is able to arrange the above. Arrangement of water for drinking purpose in addition to the water required for construction work is also to be made by the contractor. For Electric connection, the contractor shall make necessary connection as per requirement for NDPL/BSES/NDMC and the contractor shall be authorized to use the same for the execution or work. The department shall provide necessary help for obtaining electric connection. The decision of the Engineer-In-Charge shall be final and binding on the contractor
			7.7 - No Provision taken in the Approved and uploaded NIT.	7.7 Frequency of Tests:- Testing of materials should be as per CPWD specifications 2009 Vol-1, Vol-2 or as per relevant IS/other codes.
5	SITE CONDITIONS AND LOCATION	82 & 83	<p><u>2.0 SITE CONDITIONS AND LOCATION</u></p> <p>After Condition 3.4</p> <p>3.5 - No Provision taken in the Approved and uploaded NIT.</p>	<p><u>2.0 SITE CONDITIONS AND LOCATION</u></p> <p>After Condition 3.4</p> <p>3.5 The contractor shall submit a detailed programme for execution of work showing activities distinctly alongwith Bar-Chart/Pert within two weeks from the date of award of work. The Contractor shall submit monthly progress report alongwith Bar-Chart for completion of work. The contractor shall also submit monthly programme in advance indicating resources to be deployed like material, labour, T&amp;P etc. in case he fails to submit such detailed programme by 10th of every month a recovery of Rs. 20,000/- per month shall be</p>

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नई दिल्ली 13/02/19  
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			3.6 – No Provision taken in the Approved and uploaded NIT.	effected for default period till completion of work.
6.	Schedule of work - Item No. 10.03 at page 190	190	Providing and laying design mix cement concrete of M-30 grade, in roads/taxi tracks/runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints ( 10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately. Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer.	3.6 For water supply, contractor shall make his own arrangements including boring of tube well, if necessary and nothing extra shall be paid by the Department for arrangement of water or on its treatment as per IS 456/2000, para 5.4 or CPWD specification 2009 volume I & II with upto date correction slips.
				Providing and laying design mix cement concrete of M-30 grade, in roads/taxi tracks/runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 25mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, leveling to required slope/camber, finishing with required texture, including steel form work with sturdy MS channel sections, curing, making provision for contraction/expansion, construction & longitudinal joints (10mm wide x 50mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/tie bars to be paid separately). Note: - Cement content considered in M-30 is @340kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately. Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer.

Executive Engineer,  
SRD Division-I, PWD,  
New Delhi.

Assistant Ex. Engineer (P),  
O/o CE(East)M, PWD,  
New Delhi.

Chief Engineer (East)M,  
PWD, New Delhi.

Superintending Engineer,  
Project Circle, PWD,  
New Delhi.

Executive Engineer (P),  
O/o CE(East)M, PWD,  
New Delhi

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			Keslec RIGA 75 W NW LED ASYM POST TOP	suitable accessories i/c testing, commissioning etc. completed as reqd. Light fixture and Lamp make of LED (Cree, Nichia, Philips, Osram) (a) Type : LED Postop Luminaire, Make : Keslec RIGA 75 W NW LED ASYM POST TOP or equivalent make of Bajaj/Trilux/Philips/Twinkle/L uster.
3	BOQ	219	124.06 Supply erection and commissioning of 4m high G.I tubular pole 'T' washed, primered and painted, made in two sections bottom section of 1m having a dia of 140mm and top section of 3m having a dia of 76mm. The column shall also be provided with flush door at the bottom with proper strengthening to the cutout of the door opening. A junction/ looping box with 32 Amps. Heavy duty connector shall be built into the pole. (Keselec Private Ltd Cat. Ref.: NEMO Pole 4m in GI with Base Plate 1 or equivalent)	24.06 Supply erection and commissioning of 4m high G.I tubular pole 'T' washed, primered and PU painted colour decided by Engineer-in- Charge, made in two sections bottom section of 1m of minimum thickness 5.4 mm having a dia of 140mm and top section of 3m of minimum thickness of 4.5 mm having a dia of 76mm. The column shall also be provided with flush/sliding door at the bottom at the height 500 mm from base. Pole shall be erected on foundation of size 300x300x700 using (1:2:4) reinforced cement concrete foundation made out of ready mix M-20 grade concrete i/c excavation of earth, providing cutting with positioning of foundation bolts of suitable size of minimum 24" length of hot deep galvanized L/J type 4 nos. and providing suitable size of template and nut bolt washer etc. and providing 40 mm. dia (O.D) DWC,HDPE Pipe for cable entry & exit as required. (Poles shall be approved by Engineer- in-Charge as decided by with proper strengthening to the cutout of the door opening with base plate. A junction/ looping box with 32 Amps. Heavy duty connector shall be built into the pole window. (make Keselec/Valmont/Twinkle/ Bajaj/Lustre/Transrail.
4	List of approved makes (Elect.) Sl. No. 1-25 & 27-41	174- 175	No Change (as per original NIT)	
	Sl. No. 26	174	Street Light octagonal Poles & Bracket Note:- Pole shall be made from sheet of original manufacturer of TISCO/SAIL/JSW/ESSAR. (Bajaj/BPP/Aster/Paruthi Engineers/Utkarsh/ Valmont )	Deleted
Addition in the list of approved make (Elect.)				
	42	Addition	No provision	42 Electrical Pump (Mather&Platt/ Armstrong/Willo/KSB/ Grundfos)

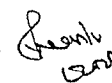


	43	Addition	No provision	43 Diesel Driven Pump (Cummins/Caterpillar/ KOEL)
	44		No provision	44 Motor (Pump and motor shall be assembled in pump manufacturer's works) (ABB/Siemens/Kirloskar)
	45		No provision	45 Mechanical Seal (Durametallic/Burgmann)
	46		No provision	46 Valve/Strainer (AIP/Advance/Sant/ Emerant/Kirloskar/Zoloto/ Audco/Honeywell)
	47		No provision	47 Fastner (Hilti/Fischer/Bosch/ KGN)
	48		No provision	48 Cable Tray (MK/Venus/Super)
	49		No provision	49 Electrical Pump Panel (for firefighting) (Adlec/Vidyut Control/ Advance/Neptune/ Jakson/Milestone)
5	Terms and Conditions for Octagonal Pole	122-124	Sl. No. 1-25	Deleted
	Terms and Conditions for rising main etc	125-129	Sl. No. 1-26	Deleted
	Commercial and Additional Conditions for Sub Station	130-135	Sl. No. 1-26	Deleted
	Terms and Conditions for DG Set	136-142	Sl. No. 1-1,20	Deleted
	Terms and Conditions for Lift and Escalator	143-148	Sl. No. 1-31	Deleted
	Terms and Conditions for HVAC Works	149-150	Sl. No. 1-15	Deleted
	Technical Specification for Fire Alarm System	151-172	Sl. No. 1-6	Deleted
	Terms & Conditions	Addition	No Provision	As per Annexure-A
	Technical	Addition	No Provision	As per Annexure-B

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लोक नायक सेतु परियोजना

	speci ficati on for fire fight ing syste .m			
6	schedule F Clause 36(i)	119	schedule F Clause 36(i)	schedule F Clause 36(i) has been modified as per Annexure-C

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13/12

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लोक नायक सेतू पश्चिमी तट  
नई दिल्ली-110002

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स.अ. 22/देवर Cont.

## ANNEXURE-A

### ADDITIONAL TERMS AND CONDITIONS FOR FIRE FIGHTING & E.I. WORKS

#### 1. LOCATION

The Fire Fighting system will be installed at Chandni Chowk & will be required to operate under the Climatic conditions as prevailing.

#### 2. SITE INFORMATION

The tenderer should, in his own interest, visit the site and familiarizes himself with the site conditions before tendering. For any clarification, tenderer may discuss with the Engineer- in-Charge.

#### 3. CONFORMITY WITH STATUTORY ACTS, RULES, STANDARDS AND CODES

- (i) The work shall be executed as per CPWD General Specifications for Electrical Works Part - I (Internal) 2013, Part - II (External) 1994, Part - IV (Substation) - 2005 as amended up to date relevant I.E. Rules, BIS / IEC and as per directions of Engineer-in-Charge. These additional specifications are to be read in conjunction with above and in case of variations; specifications given in this Additional conditions shall apply. However, nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read alongwith schedule of quantities for the work.

The works shall be executed as per CPWD's General specification for Electrical Works, Part-I (Internal-2013); Part-II (External)-1995; Part-V for Fire Fighting Installation)-2006, IE Rules, Indian Standards amended up to date and as per direction of Engineer-in-Charge. The additional specifications are to be read with above and in case of any variations; specifications given along with the tender shall apply.

#### 4. Price Bid.

This should contain price bid offer-only. The tenderers should upload price bid as per procedure.

- 4.1 The tenders are advised not to deviate from the technical specifications/items, commercial term and conditions of NIT like terms of payment, guarantee, arbitration clause, escalation etc.
- 4.2 Scrutiny/evaluation of the Price Bid shall be done by the department. In case it is found that the Price Bid of a tenderer is not in line with NIT specifications/ requirements and/or contains any deviations, the department reserves the right to reject the price bid of such firm(s) without making any reference to the tenderer(s).
- 4.3 Necessary clarifications required by the department shall have to be furnished by the tenderer within the time given by the department for the same. The tenderer will have to depute his representative to discuss with the officer(s) of the department as and when so desired. In case, in the opinion of the department a tenderer is taking undue long time in furnishing the desired clarifications, his bid will be rejected without making any reference.
- 4.4 Tenders (Price Bid) only shall be opened by the Executive Engineer (E) on the due date and time in the presence of tenderers or their authorized representatives who wish to remain present after submission of EMD in physical form.

#### 5. ACCEPTANCE OF TENDER

The department reserves the right to reject any or all the tenders without assigning any reasons. The department may call for fresh tenders with or without modification in the tender from the same firms whose applications are already approved by the competent authority.

#### 6. RATES

- 6.1 The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works contract tax, VAT and labour cess), duties levies, octroi etc. and all charges for packing forwarding, insurance, freight and loading, unloading, delivery, installation, testing, commissioning etc. at-site including temporary construction of storage, risks, over head charges, general liabilities/ obligations and clearance from Chief Fire Officer. However, the fee for the Fire Department for inspections shall be borne by the department. The rate shall be exclusive of service tax.
- 6.2 The department will not issue Octroi exemption certificate.
- 6.3 The contractor has to carry out maintenance as per manufacturer's standards for a period of 12 months from the date of handing over. Nothing extra shall be paid on this account.

#### 7. TERMS OF PAYMENT:

The following percentage of contract rates shall be payable against the stages of work shown herein:

- 7.1 After initial inspection & delivery at site in good condition on pro-rata basis - 70%
- 7.2 On completion of pro-rata installation - 10%
- 7.3 On successful testing and commissioning - 10%.
- 7.4 After CFO Clearance - 10%

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**8. SECURITY DEPOSIT**

Security deposit shall be deducted from each running bill and the final bill to the extent of 2.5% of the gross amount payable subject to a maximum amount of 2.5% of the tenderer value. The earnest money deposited shall be adjusted against this security deposit. The security deposit shall be released on the expiry of guarantee period stipulated in the contract. Bank guarantee will not be accepted as security deposit.

**9. PERFORMANCE GUARANTEE**

The successful tenderer shall submit an irrevocable performance guarantee of 5% of the tenderer amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement within 15 days of issued of letter of acceptance of tender, expendable upto 7 days. This guarantee shall be in the form of Demand Draft/ Pay Order or irrevocable bank guarantee bond of any scheduled bank or the State Bank of India in the specified format or in the form of Government security, fixed deposit receipt pledged in favour of Executive Engineer or as specified in the letter of acceptance of tender. The performance guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond. This bank guarantee shall be kept valid till the recording of completion certificate for the work by the competent authority.

9.1 Income Tax, VAT, work contract tax, labour cess & other statutory deductions etc. shall be made at source as per the prevalent laws. The deductions of Security Deposit, Income Tax, Works Contract Tax etc. shall be done after calculation of the above due payments as per clauses 7.1 to 7.3 and net payment shall be reduced accordingly.

**10. Completeness of tender, Submission of Execution Programme, Approval of Drawings, and Commencement of Work:**

10.1 Completeness of the tender - All sundry equipment, fittings, assemblies, accessories, hardware items, bolts, supports, termination lugs for electrical connection, cable glands, junction box and all other sundry items for proper assembly and efficient working of the various equipment and components of the work shall be deemed to have been included in the tender, irrespective of the fact whether such items are specifically mentioned in the tender or not.

10.2 Submission of programme - within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-Charge. This programme shall be framed keeping in view the building progress.

10.3 Submission of Drawings - The contractor shall submit the design calculations and drawings to the Engineer-in-Charge for approval before start of work.

10.4 Commencement of Work - The contractor shall commence work as soon as the drawings submitted by him are approved.

**11. Dispatch of Materials to Site and Safe Custody thereof :**

11.1 The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge.

11.2 Suitable lockable storage accommodation shall be made available free of charge temporarily if available otherwise contractor has to arrange storage accommodation on his own. Watch & ward however, shall be the responsibility of contractor.

11.3 Programme of dispatch of material shall be framed keeping in view the building progress.

11.4 Safe custody of all machinery and equipment supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

**12. Co-ordination with Other Agencies:**

12.1 The contractor shall co-ordinate with all other agencies involved in the work so that the work of other agencies is not hampered due to delay in his work.

12.2 Piping, cabling or any other work, which directly affect the progress of building work, shall be given priority.

**13. Quality of Materials and Workmanship:**

13.1 The components of the installation shall be of such design so as to satisfactorily function under all conditions of operation.

13.2 The entire work of manufacture/ fabrication, assembly and installation shall conform to sound engineering practice.

13.3 All equipment and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales service.

**14. Care of the Building :**

14.1 Care shall be taken by the contractor during execution of the work to avoid damage to the building.

14.2 They shall also be responsible for repairing all such damages and restoring the same to the original finish at their cost.

14.3 They shall also remove all unwanted and waste materials arising out of the installation from the site.

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## 15. STORAGE & CUSTODY OF MATERIALS

## 16. COMPLETION PERIOD

17. GUARANTEE:

17.2 The tender shall guarantee among other things, the following:-

b) Safe mechanical & electrical stress on all parts under all specified conditions of operation.

## 18. POWER SUPPLY

18.2 The power supply for testing and commissioning of the complete installation shall be made available by the Department free of charge to the contractor. For this purpose, the power supply shall be given at one point through U.G. cable or as specified in the contract. The termination of the feeder in the unit shall be the responsibility of the contractor and nothing extra shall be paid on this account.

18.4 The contractor shall not use the power supply for any other purpose than that for which it is intended for. No major fabrication work shall be done at site. Power shall be used only for welding / cutting works. The power supply shall be disconnected in case of such default and the contractor shall then have to arrange the required power supply at his cost.

19. WATER SUPPLY:

20. **ACCEPTABLE MAKES OF VARIOUS EQUIPMENTS.**  
The acceptable makes of various equipments are as follows:

21. TENDER DRAWINGS, DRAWINGS FOR APPROVAL AND COMPLETION DRAWINGS -

21.2 **Drawings for approval on award of the work** -The contractor shall prepare & submit three sets of following drawings and get them approved from the Engineer-in-charge before the start of the work. The approval of drawings however does not absolve the contractor not to supply the equipment/ materials as per agreement, if there is any contradiction between the approved drawings and agreement. The decision of the Engineer-in-Charge shall be final & binding on the contractor.

- Lay out drawings of the equipments to be installed in pump room and terrace.
- Drawings showing the details of erection of entire equipments including their foundations.
- Plumbing drawings showing the layout of entire piping, dia. and length of pipes, hydrant, air vessel and isometric drawings showing connections to various equipments.
- Sprinkler drawing indicating layout and size of pipe, location of valves, sprinklers etc.
- Lay out and isometric drawings of the equipment and pipe work, valves, nozzles to be installed in various rooms.

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- f) Drawings including section, showing the details of erection of entire equipment including their supports/ mountings etc.
- g) Electrical wiring diagrams for all electrical equipment and controls including the sizes and capacities of the various cables and equipment.
- h) Any other drawings relevant to the work.
- 21.3 The successful tenderer would be required to submit the following drawings after award of work for approval before commencement of installation.
- (a) General arrangement drawings of the equipments like detectors, panels etc. in the building with complete dimensions as per interior and structural layouts.
- (b) The contractor shall submit four copies of catalogues, manufacturer's drawings, equipment characteristics data or performance charts as required by Engineer in Charge.
- (c) Any other drawings relevant to the work.
- 21.4 **Completion Drawings**  
Three sets of the following laminated drawings shall be submitted by the contractor while handing over the installation to the Department. Out of this one of the sets shall be laminated on a hard base for display in the Control room. In addition one soft copy will be given on compact disc.
- a) Installation drawings giving complete details of all the equipment, including their mountings/ supports.
- b) Plumbing layout drawings giving sizes and lengths of all the pipes and the sizes and locations of valves, nozzles and including isometric drawings for the entire piping including the pipes connections to the various equipments.
- c) Electrical wiring diagrams for all electrical equipment and controls including the sizes and capacities of the various cables and equipments.
22. **INSPECTION AND TESTING:**
- 22.1 Initial inspection of materials & equipment at manufacturer's works will be done by the Engineer-in-Charge or his representative. For item/equipment requiring initial inspection at manufacturer's works, the contractor will intimate the date of testing of equipment at the manufacturer's works before dispatch. The contractor shall give sufficient advance notice regarding the dates proposed for such tests to the department's representative(s) to facilitate his presence during testing. The Engineer-in-charge at his discretion may witness such testing. Equipment will be inspected at the manufacturer/authorised dealer's premises, before dispatch to the site by the contractor.
- a) The department also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make arrangements for the same.
- b) The materials duly inspected by Engineer-in-Charge or his authorized representative shall be dispatched to site by the contractor.
- c) No additional payment shall be made to the contractor for initial inspection/ testing at the manufacturer's works by the representative of the Engineer-in-Charge. However, the department will bear the expenses of its representative deputed for carrying out initial inspection/testing.
- 22.2 **Final Inspection and Testing**  
Final Inspection and testing will be done by the Engineer-in-Charge of his representative as per details indicated in Chapter -11 of Specification.  
The installation will be offered for inspection by local bodies (Chief Fire Officer). The contractor or his representative shall attend such inspection of the Chief Fire Officer, extend all test facilities as are considered necessary, and comply with all observations of the Chief Fire Officer which are part of the agreement and arrange for obtaining necessary clearance certificate in favour of the department. IN case the contractor fails to attend the inspection and made desired facilities available during inspection, the department reserves the right to provide the same at the risk and cost of the contractor and impose penalty for the same. The installation will be accepted by the department only after receiving clearance from Chief Fire Officer for the work executed by the contractor under the agreement which is the responsibility of the contractor.
23. **EXTENT OF WORK**
- 23.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning, as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract as this is a turnkey job.
- 23.2 In addition to supply, installation, testing and commissioning of wet riser equipments, following works shall be deemed to be included within the scope of work to be executed by the tenderer as this is a turnkey job -
- a) Minor building works necessary for installation of equipments, foundation, making of opening in walls or in floors and restoring them to their original condition/ finish and necessary grouting-etc. as required.
- b) All supports for over head pipes, cables, valves, sprinkler and channels etc. as required.

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- c) Getting Delhi Fire Service Inspection done (NOC) and obtaining approval. However, necessary fees for inspection shall be borne by the department.
24. **INDEMNITY:**  
The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.
25. **VALIDITY**  
Tenders shall be valid for acceptance for a period of 45 days from the date of opening of price bid
26. **WORKS TO BE ARRANGED BY THE DEPARTMENT:**  
Unless otherwise specified in the tender documents, the following works shall be arranged by the Department:
- Space for accommodating all the equipment and components involved in the work.
  - Under ground and terrace tanks.
  - Power supply. Water supply for bona fide use for installation, testing & commissioning of the system.
  - Masonry ducts within and outside the building for carrying pipe lines and cables wherever specified.
27. **WORKS TO BE DONE BY THE CONTRACTOR:**  
Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost- whether specifically indicated in the schedule of work or not.
- Foundations for equipments including foundation bolts and vibration isolation spring/pads.
  - Suspenders, brackets and floor/ wall supports for suspending/supporting pipes.
  - Suspenders and/or cable trays for laying the cables.
  - Excavation and refilling of trenches in soil wherever the pipes are to be laid directly in ground, including necessary base treatment and supports.
  - Sealing of all floor slab/ wall openings provided by the Department or contractor for pipes and cables, from fire safety point of view, after laying of the same.
  - Painting of all exposed metal surfaces of equipment and components with appropriate colour.
  - Making openings in the walls/ floors/ slabs or modification in the existing openings wherever provided for carrying pipe line, cables etc.
  - All electrical works including cable/wires earthing etc. beyond power supply made available by the department.
  - Making good all damages caused to the structure during installation and restoring the same to their original finish.
  - Approval from local fire authority/NOC from Delhi Fire Service as may be required as per local bye-laws.
28. **MOBILIZATION ADVANCE:**  
No mobilization advance shall be paid for this work.
29. **INSURANCE AND STORAGE:**  
All consignments are to be duly insured upto the destination from warehouse at the cost of the contractor. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.
30. **VERIFICATION OF CORRECTNESS OF EQUIPMENT AT DESTINATION:**  
The contractor shall have to produce all the relevant records to certify that the genuine equipments from the manufacturers
31. **MACHINERY FOR INSTALLATION:**  
All tools and tackles required for unloading/ handling of equipment and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.
32. **SAFETY MEASURES:**  
All equipment shall incorporate suitable safety provisions to ensure safety of the operating personnel at all times. The initial and final inspection reports shall bring out explicitly the safety provisions incorporated for all equipment.
33. **After Sales Service:**  
The contractor shall ensure adequate and prompt after sales service in the form of maintenance.

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spares and personnel as and when required and shall minimize the breakdown period. In case of equipment supplied by other manufacturers the firm shall furnish a guarantee from the manufacturer for the same before the installation is taken over.

**34. Documents to be provided on Completion of Work:**

Three sets of following documents shall be furnished to the department by the contractor on completion of work.

- Completion drawings as per 21.4.
- 3 sets of manufacturer's technical catalogues of all equipment and accessories.
- Operation and maintenance manual of all major equipment, detailing all adjustments, operation and maintenance procedure has been supplied and erected.

**ANNEXURE-B**

**TECHNICAL SPECIFICATION FOR FIRE FIGHTING SYSTEM**

**SECTION - 1**

**SCOPE OF WORK**

- 1.0** The works shall be executed as per CPWD's General specification for Electrical Works, Part-I (Internal-2013); Part-II (External)-1995; Part-V (Wet Riser and Sprinkler System for Fire Fighting Installation)-2006, IE Rules, Indian Standards amended up to date and as per direction of Engineer-in-Charge. The additional specifications are to be read with above and in case of any variations; specifications given along with the tender shall apply.

**SECTION -2**

**COMMISSIONING & GUARANTEE**

**1. SCOPE OF WORK**

Work under this section shall be executed without any additional cost. The rates quoted in this tender shall be inclusive of the works given in this section.

Contractor shall provide all tools, equipment, metering and testing devices required for the purpose.

On award of work, Contractor shall submit a detailed proposal giving methods of testing and gauging the performance of the equipment to be supplied and installed under this contract.

All tests shall be made in the presence of the Engineer-in-charge or his representative or any inspecting authority. At least five working days notice in writing shall be given to the inspecting parties before performing any test.

Water flow rates of all equipment and in pipe lines through valves shall be adjusted to design conditions. Complete results of adjustments shall be recorded and submitted.

Contractor shall ensure proper balancing of the hydraulic system and for the pipes / valves installed in his scope of work by regulating the flow rates in the pipe line by valve operation. The contractor shall also provide permanent Tee connection (with plug) in water supply lines for ease of installing pressure gauge, temperature gauge & rotameters. Contractor shall also supply all required pressure gauge, temperature gauge & rotameter for system commissioning and balancing. The balancing shall be to the satisfaction of Engineer-in-charge or his representative / Consultant.

Three copies of all test results shall be submitted to the Engineer-in-charge in A4 size sheet paper within two weeks after completion of the tests.

**2 PRECOMMISSIONING**

On completion of the installation of all pumps, piping, valves, pipe connections, insulation etc. the Contractor shall proceed as follows:

- Prior to start-up and hydraulic testing, the Contractor shall clean the entire installation including all fittings and pipe work and the like after installation and keep them in a new condition. All pumping systems shall be flushed and drained at least once through to get rid of contaminating materials. All pipes shall be rodded to ensure clearance of debris, cleaning and flushing shall be carried out in sections as the installation becomes completed.
- All strainers shall be inspected and cleaned out or replaced.
- When the entire systems are reasonably clean, a pre-treatment chemical shall be introduced and circulated for at least 8 hours. Warning signs shall be provided at all outlets during pre-treatment. The pre-treatment chemical shall:
  - Remove oil, grease and foreign residue from the pipe work and fittings;
  - Pre-condition the metal surfaces to resist reaction with water or air.
  - Establish an initial protective film;
  - After pre-treatment, the system shall be drained and refilled with fresh water and left until the system is put into operation.
  - Details and procedures of the pre-treatment shall be submitted to the Engineer-in-charge for approval.
- Check all clamps, supports and hangers provided for the pipes.
- Fill up pipes with water and apply hydrostatic pressure to the system as given in the relevant section of the specification. If any leakage is found, rectify the same and retest the pipes.

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#### Fire Protection System

- Check all hydrant valves by opening and closing: any valve found to be open shall be closed.
- Check all the piping under hydro test.
- Check that all suction and delivery connections are properly made for all pump sets.
- Check rotation of each motor after decoupling and correct the same if required.
- Test run each pump set.
- All pump sets shall be run continuously for 8 hours (if required with temporary piping back to the tank).

#### Commissioning and Testing

- Pressurize the fire hydrant system by running the jockey pump and after it attains the shutoff pressure of the pump, then
- Open bypass valve and allow the pressure to drop in the system. Check that the jockey pump cuts-in and cuts-out at the preset pressure. If necessary adjust the pressure switch for the jockey pump. Close by-pass valve.
- Open hydrant valve and allow the water to flow into the fire water tank in order to avoid wastage of water. The main fire pump shall cut-in at the preset pressure and shall not cutout automatically on reaching the normal line pressure. The main fire pump shall stop only by manual push button. However the jockey pump shall cut-out as soon as the main pump starts.
- Switch off the main fire pump and test check the Diesel engine driven pump in the same manner as the electrically driven pump.
- When the fire pumps have been checked for satisfactory working on automatic controls, open fire hydrant valves simultaneously and allow the hose pipes to discharge water into the fire tank to avoid wastage.
- Check each landing valve, male and female couplings and branch pipes, for compatibility with each other. Any fitting which is found to be incompatible and do not fit into the other properly shall be replaced by the Contractor. Each landing valve shall also be checked by opening and closing under pressure.
- Check all annunciators by simulating the alarm conditions at site.

### 3 STATUTORY AUTHORITIES' TESTS AND INSPECTIONS

As and when notified in writing or instructed by the Engineer-in-charge, the Contractor shall submit shop drawing and attend all tests and inspections carried out by Local Fire Authorities, Water Authority and other Statutory Authorities, and shall forthwith execute free of charge any rectification work ordered by the Engineer-in-charge as a result of such tests and inspections where these indicate non-compliance with Statutory Regulations. Some of these tests may take place after the issue of Practical Completion of the Main Contract and the Contractor shall make all allowances in this respect.

The Contractor shall be responsible for the submission of all necessary forms and shop drawings to the Statutory Authorities which shall conform in layout to the latest architectural plans submitted to and kept by these Authorities.

The submission shall comply with the requirements set forth in the current Codes of Practice and circular letters of the Statutory Authorities. The shop drawings to be submitted shall be forwarded to the Engineer-in-charge for checking before submission.

The Contractor shall allow for at least two submissions of complete sets of shop drawings to the Authorities, one to be made within six months after the award of the Contract but not less than six weeks before the inspection. The Engineer-in-charge may at his discretion instruct the Contractor for additional submissions to the Local Authorities whenever necessary.

The Contractor shall notify the Engineer-in-charge at least seven days in advance of his application for local Authority tests and inspections. On receipt of a confirmed date for test and inspection the Contractor shall inform the Engineer-in-charge without delay.

### 4 FINAL ACCEPTANCE TESTS

Following commissioning and inspection of the entire installation, and prior to issue of the Completion Certificate, the Contractor shall carry out final acceptance tests in accordance with a programme to be agreed with the Engineer-in-charge.

Should the results of the acceptance tests show that plant, systems and/or equipment fail to perform to the efficiencies or other performance figures as given in this Specification, the Contractor shall adjust, modify and if necessary replace the equipment without further payment in order that the required performance is obtained.

Where acceptance tests are required by the relevant Authorities having jurisdiction, these tests shall be carried out by the Contractor prior to the issue of Completion Certificate to the acceptance of the Authorities.

### 5 REJECTION OF INSTALLATION / PLANT

Any item of plant or system or component which fails to comply with the requirements of this Specification in any respect whatsoever at any stage of manufacture, test, erection or on completion at

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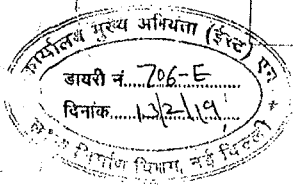
After works have been accepted, the Contractor may be required to carry out assist in carrying out additional performance tests as reasonably required by the Engineer-in-charge.

The Contractor shall warrant that all plant, materials and equipment supplied and all workmanship performed by him to be free from defects of whatsoever nature before handover to the department.

All testing and commissioning shall be done by the Contractor to the entire satisfaction of the Engineer-in-charge or his representative and all testing and commissioning documents shall be handed over to the Engineer-in-charge.

The Contractor shall also hand over all maintenance and operation manuals, all certificates and all other documentation as per the terms of the contract to the Engineer-in-charge.

Schedule 'F' Clause 36(i)						
Clause 36(i):		"Requirement of Technical Representative(s) and Recovery Rate"				
Sl. No.	Minimum Qualification of technical representative	No.	Minimum Experience (years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)	
					Figure	Words
1.	Graduate Engineer	1	5	Quality Engineer	Rs. 25,000/- per month	Rs. Twenty Five Thousand per month
2	Graduate Engineer/ Diploma Engineer	1	For Graduate Engineer 2 Year & Diploma Engineer 5 year	Surveyor	Rs. 15,000/- per month	Rs. Fifteen Thousand per month



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- It is recommended to approve the corrigendum prepared by EEC so that it can be uploaded on web-site. The date of opening of tender is 21/02/19

R.C.E. (East)

13/2/19

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Submitted to Mr. C.E. (Gen) Per approval of Punjab

**VIJAY SINGH**  
 Assistant Executive Engineer (P  
 PWD, Zone (East) M  
 (NCTD), MSO Building,  
 New Delhi

PRAVEEN KATHURIA  
EE (P)/East/Zone

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## eTendering System Government of NCT of Delhi

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Tenders

## Bid Opening Summary

Date : 25-Feb-2019 12:14 PM

Print

Organisation Chain :	Public Works Department  CE/SE/M2-M24  EE/M241
Tender ID :	2019_PWD_167676_1
Tender Ref No :	98/EE/SRD-I/PWD/2018-19
Tender Title :	Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil and Electrical Work).
Packet Name :	Fee/PreQual/Technical

## Decrypted Bid Openers List

S.No	Name	Decrypted Date
1	Bharat Kumar	21-Feb-2019 03:46 PM
2	Suresh Pal	21-Feb-2019 03:48 PM

## Bid List

S.No	Bid No	Bidder	Opened By	Opened Date	Status
1	940917	kgb.engineers	Suresh Pal	25-Feb-2019 12:11 PM	Admitted
2	941193	A.K.Builders	Suresh Pal	25-Feb-2019 12:11 PM	Admitted
3	941235	MAHAVIR PRASAD GUPTA AND SONS	Suresh Pal	25-Feb-2019 12:12 PM	Admitted
4	941256	M/S SATYA PARKASH AND BROS PVT LTD	Suresh Pal	25-Feb-2019 12:12 PM	Admitted
5	941258	SBG Infracon Private Limited	Suresh Pal	25-Feb-2019 12:12 PM	Admitted
6	941300	M I A CONSTRUCTION PRIVATE LIMITED	Suresh Pal	25-Feb-2019 12:12 PM	Admitted
7	941441	Y D Builders And Hotels Pvt. Ltd.	Suresh Pal	25-Feb-2019 12:12 PM	Admitted

## Bid Opening Summary

Bid Opener	Type	Summary	Updated On
Suresh Pal	Technical	Total 7 Nos. Bidders participated and all bidders found eligible for opening tender of their technical bid.	25-Feb-2019 12:14 PM




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 क. EE/उकेतर Cont.

कार्यपालक अभियन्ता

लो.नि.वि. (दि.स.) स.अनु.म. एम-241

<https://govtprocurement.delhi.gov.in/nigep/app?component=%24DirectLink&page=BidO...> 25-Feb-19  
 नई दिल्ली-110002

Delhi Tenders		eTendering System Government of NCT of Delhi				
		Technical Bid Evaluation Summary				
		Date : 25-Feb-2019 12:15 PM				
		Print				
Organisation Chain : Public Works Department  CE/SE/M2-M24  EE/M241						
Tender ID : 2019_PWD_167676_1						
Tender Ref No : 98/EE/SRD-I/PWD/2018-19						
Tender Title : Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil and Electrical Work).						
Cover System : 2						
Committee Chairperson/Co-ordinator Type :		Internal				
Committee Chairperson/Co-ordinator Name :		Sh. Suresh Pal				
Committee Members :		Sh. Bharat Kumar, AE				
Summary Details :		techsummary_207472.pdf (26.89 KB)				
Summary uploaded on :		25-Feb-2019 12:15 PM				
Bid Opening Date & Time for Financial :		25-Feb-2019 12:20 PM				
No. of Bids : 7						
<b>Bid List</b>						
S.No	Bid Number	Bidder Name	Opened By	Submitted Date	Status	Reason
1	940917	kgb.engineers	Suresh Pal	21-Feb-2019 11:33 AM	Accepted	Found eligible
2	941193	A.K.Builders	Suresh Pal	21-Feb-2019 02:10 PM	Accepted	Found eligible
3	941235	MAHAVIR PRASAD GUPTA AND SONS	Suresh Pal	21-Feb-2019 01:30 PM	Accepted	Found eligible
4	941256	M/S SATYA PARKASH AND BROS PVT LTD	Suresh Pal	21-Feb-2019 01:51 PM	Accepted	Found eligible
5	941258	SBG Infracon Private Limited	Suresh Pal	21-Feb-2019 01:18 PM	Accepted	Found eligible
6	941300	M I A CONSTRUCTION PRIVATE LIMITED	Suresh Pal	21-Feb-2019 12:52 PM	Accepted	Found eligible
7	941441	Y.D Builders And Hotels Pvt. Ltd.	Suresh Pal	21-Feb-2019 02:46 PM	Accepted	Found eligible
Tender Inviting Authority						
हस्ता. हस्ता. कर EE/उकेदार Cont.						

eTendering System Government of NCT of Delhi

Created By: Suresh Pal

Created Date/Time: 25-Feb-2019 12:23 PM

Tender Title: Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil and Electrical Work).

Tender ID: 2019\_PWD\_167676\_1

Tender Inviting Authority: Executive Engineer, SRD Project Division, PWD, New Delhi

Name of Work: Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil & Electrical Work)

Contract No: 98/EE/SRD-I/PWD/2018-19

SCHEDULE OF WORK / ITEM(S)

SL.No	Bidder Name	Estimated Rate	Quoted Percentage	Rate	Quoted Rate in Figures and Words
1.00	kgg engineers	382266940.00	5.68	403979702.1	Fourty Crore Thirty Nine Lakh Seventy Nine Thousand Seven Hundred and Two
2.00	SBG Infracon Private Limited	382266940.00	-17.18	316593479.7	Thirly One Crore Sixty Five Lakh Ninety Three Thousand Four Hundred and Seventy Nine
3.00	M/S SATYA PARKASH AND BROS PVT LTD	382266940.00	1.11	386510103.0	Thirly Eight Crore Sixty Five Lakh Ten Thousand One Hundred and Three
4.00	M I A CONSTRUCTION PRIVATE LIMITED	382266940.00	-27.30	277908065.3	Twenty Seven Crore Seventy Nine Lakh Eight Thousand Sixty Five
5.00	MAHAVIR PRASAD GUPTA AND SONS	382266940.00	3.20	394499482.0	Thirly Nine Crore Fourty Four Lakh Ninety Nine Thousand Four Hundred and Eighty Two
6.00	A.K.Builders	382266940.00	-18.81	310362528.5	Thirly One Crore Three Lakh Sixty Two Thousand Five Hundred and Twenly Eight
7.00	Y D Builders And Hotels Pvt. Ltd.	382266940.00	25.80	480891810.5	Fourty Eight Crore Eight Lakh Ninety One Thousand Eight Hundred and Ten

Lowest Amount Quoted By: M I A CONSTRUCTION PRIVATE LIMITED(277908065.38)

हस्ता. हस्ता.  
ए. ई/डेकर Cont.

Approved By

कार्यपालक अभियन्ता  
लो.वि.वि. (दि.स.) स.अनु.म. पृ-241  
लोक नायक सेतु परिवर्ती तट  
नई दिल्ली-110002

417

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8/4

कुशल  
सर्व सम्पत्ति/संपत्ति Cont.

Sheet Name	S.No	Bidder Name	Amount	Bid Rank
Boq1	1	M I A CONSTRUCTION PRIVATE LIMITED	277908065.38	L1
	2	A.K Builders	310362528.59	L2
	3	SBG Infracore Private Limited	316593479.71	L3
	4	M/S SATYA PARKASH AND BROS PVT LTD	386510103.03	L4
	5	MAHAVIR PRASAD GUPTA AND SONS	394499482.08	L5
	6	kgg engineers	403979702.19	L6
	7	Y D Builders And Hotels Pvt. Ltd.	480891810.52	L7

BOQ Summary Details  
Tender Title: Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpur Mosque. (SH-Civil and Electrical Work)  
Tender ID: 2019\_PWD\_167676\_1

कार्यपालक अभियन्ता  
लो.नि.वि., (दि.स.) स.अनु.मं. एम-241  
माल न्यायक सेव पश्चिमी तट

Delhi Tenders		eTendering System Government of NCT of Delhi			
		Bid Opening Summary			
		Date : 25-Feb-2019 12:27 PM			
		Print			
<b>Organisation Chain :</b>		Public Works Department  CE/SE/M2-M24  EE/M241			
<b>Tender ID :</b>		2019_PWD_167676_1			
<b>Tender Ref No :</b>		98/EE/SRD-1/PWD/2018-19			
<b>Tender Title :</b>		Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil and Electrical Work).			
<b>Packet Name :</b>		Finance			
<b>Decrypted Bid Openers List</b>					
<b>S.No</b>	<b>Name</b>	<b>Decrypted Date</b>			
1	Bharat Kumar	25-Feb-2019 12:20 PM			
2	Suresh Pal	25-Feb-2019 12:21 PM			
<b>Bid List</b>					
<b>S.No</b>	<b>Bid No</b>	<b>Bidder</b>	<b>Opened By</b>	<b>Opened Date</b>	<b>Status</b>
1	940917	kgb.engineers	Suresh Pal	25-Feb-2019 12:22 PM	Admitted
2	941193	A.K.Bullders	Suresh Pal	25-Feb-2019 12:22 PM	Admitted
3	941235	MAHAVIR PRASAD GUPTA AND SONS	Suresh Pal	25-Feb-2019 12:22 PM	Admitted
4	941256	M/S SATYA PARKASH AND BROS PVT LTD	Suresh Pal	25-Feb-2019 12:22 PM	Admitted
5	941258	SBG Infracon Private Limited	Suresh Pal	25-Feb-2019 12:23 PM	Admitted
6	941300	M I A CONSTRUCTION PRIVATE LIMITED	Suresh Pal	25-Feb-2019 12:23 PM	Admitted
7	941441	Y D Builders And Hotels Pvt. Ltd.	Suresh Pal	25-Feb-2019 12:23 PM	Admitted
<b>Bid Opening Summary</b>					
<b>Bid Opener</b>	<b>Type</b>	<b>Summary</b>	<b>Updated On</b>		
Suresh Pal	Finance	M I A CONSTRUCTION PRIVATE LIMITED 1st Lowest out of 7 Nos. bidders hence tender financial bid open for justification	25-Feb-2019 12:27 PM		

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क = EE/डेकेटर Cont.

कार्यपालक अभियन्ता  
लो.नि.वि. (दि.स.) स.अनु.म. एम-241  
लोक नायक सेतू पश्चिमी तट  
लोक निर्माता-110002

Delhi Tenders		eTendering System Government of NCT of Delhi						
		Finance Bid Evaluation Summary						
		Date : 25-Feb-2019 12:29 PM						
		Print						
Organisation Chain : Public Works Department  CE/SE/M2-M24  EE/M241 Tender ID : 2019_PWD_167676_1 Tender Ref No : 98/EE/SRD-I/PWD/2018-19 Tender Title : Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil and Electrical Work). Cover System : 2								
Committee Chairperson/Co-ordinator Type :		Internal						
Committee Chairperson/Co-ordinator Name :		Sh. Suresh Pal						
Committee Members :		Sh. Bharat Kumar, AE						
Summary Details :		finsummary_207472.pdf (26.89 KB)						
Summary uploaded on :		25-Feb-2019 12:29 PM						
No. of Bids : 7								
<b>Bid List</b>								
S.No	Bid Number	Bidder Name	Opened By	Submitted Date	Quoted Amount/ Evaluated Amount in ₹	Rank	Status	Reason
1	940917	kbg.engineers	Suresh Pal	21-Feb-2019 11:33 AM		L6	Accepted	L6
2	941193	A.K.Builders	Suresh Pal	21-Feb-2019 02:10 PM		L2	Accepted	L2
3	941235	MAHAVIR PRASAD GUPTA AND SONS	Suresh Pal	21-Feb-2019 01:30 PM		L5	Accepted	L5
4	941256	M/S SATYA PARKASH AND BROS PVT LTD	Suresh Pal	21-Feb-2019 01:51 PM		L4	Accepted	L4
5	941258	SBG Infracon Private Limited	Suresh Pal	21-Feb-2019 01:18 PM		L3	Accepted	L3
6	941300	M I A CONSTRUCTION PRIVATE LIMITED	Suresh Pal	21-Feb-2019 12:52 PM		L1	Accepted	L1
7	941441	Y D Builders And Hotels Pvt. Ltd.	Suresh Pal	21-Feb-2019 02:46 PM		L7	Accepted	L7
				Tender Inviting Authority				
				हस्ता. हस्ता. द्वारा EE/ठेकेदार Cont.				

कार्यपालक कमिश्नर  
लो.नि.वि. (वि.स.) स.अनु.मं. एम-241  
लोक नायक सेतु पश्चिमी तट  
नई दिल्ली-110002

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**Delhi  
Tenders**



Welcome : eepwddelhisrd1@gmail.com  
Last login : 21-Feb-2019 03:47 PM

Server Time : 22-Feb-2019 17:09:25 : [Home](#) [Logout](#)

eTendering System Government of NCT of Delhi

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[Published Auction Corrigendum](#)

[FRAN Auction](#)

[View Live Auction](#)

[View Auction History](#)

### Bid Management

[Bid History](#)

### Bid opening of cover 'Fee/PreQual/Technical (2019\_PWD\_167676\_pack1)'

Tender Reference Number : 98/EE/SRD-1/PWD/2018-19

Tender ID : 2019\_PWD\_167676\_1

Tender Title : Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH- Civil and Electrical Work).

Total No. of Bids to be Opened : 7

#### Pending Bids List

S.No	Bid No	Bidder	Submitted Date	Bid Opening	Quick Bid Opening
1.	940917	kgb.engineers	21-Feb-2019 11:33 AM		
2.	941193	A.K.Builders	21-Feb-2019 02:10 PM		
3.	941235	MAHAVIR PRASAD GUPTA AND SONS	21-Feb-2019 01:30 PM		
4.	941256	M/S SATYA PARKASH AND BROS PVT LTD	21-Feb-2019 01:51 PM		
5.	941258	SBG Infracon Private Limited	21-Feb-2019 01:18 PM		
6.	941300	M I A CONSTRUCTION PRIVATE LIMITED	21-Feb-2019 12:52 PM		
7.	941441	Y D Builders And Hotels Pvt. Ltd.	21-Feb-2019 02:46 PM		

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कार्यपालक Cont.

*Handwritten signature*

कार्यपालक अभियन्ता  
लो.नि.वि. (वि.स.) स.अनु.म. एम-241

लोक नायक सेतू पश्चिमी तट

नं. 110002

Version: 1.09.07 07-Oct-2018

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[https://govtprocurement.delhi.gov.in/procurement/app?component=%24DirectLink\\_2&page=Bi...](https://govtprocurement.delhi.gov.in/procurement/app?component=%24DirectLink_2&page=Bi...) 22-Feb-19

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## कार्यालय कार्यपालक अभियंता

शाहजहानाबाद पुनः विकासमंडल-1, लो.नि.वि., दिल्ली  
सरकार, यमुना का अनुप्रवाह, पश्चिमी तटबंध,  
लोक नायक सेतु, आई.टी.ओ.नई दिल्ली-02  
टेलीफोन नं०: 011-21400589  
फैक्स: 011-23378274

ई-मेल: [cepwddelhisrd@gmail.com](mailto:cepwddelhisrd@gmail.com)



पत्र सं० 54(372)/का.अभि./एस.आर.डी. मं.1/लो.नि.वि./18-19/ 428

दिनांक : / 03.2019

सेवा में,

M/s MIA Construction Pvt. Ltd.  
A-31, Gaurav Apartments,  
Patparganj, Delhi-110092

**विषय:-** Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work).

प्रिय महोदय

Your Percentage Rate tender for the work mentioned above has been accepted on behalf of President of India at your tendered amount of Rs. 27,79,08,065/- (Rupees Twenty Seven Crore Seventy Nine Lacs Eight Thousand Sixty Five Only) which is 27.30% (Twenty Seven Point Three Zero percent) Below the Estimated Cost of Rs. 38,22,66,940/- (Rupees Thirty Eight Crore Twenty Two Lacs Sixty Six Thousand Nine Hundred Forty only).

You are requested to submit the Performance Guarantee of Rs. 1,38,95,403/- (Rupees One Crore Thirty Eight Lacs Ninety Five Thousand Four Hundred Three Only) within seven Days of issue of this letter. The Performance Guarantee shall be in the prescribed form as provided in clause-1 of the General Conditions of Contracts for CPWD Works in favour of Executive Engineer, PWD Division M-241, New Delhi and shall be valid for 11 Months.

On receipt of prescribed Performance Guarantee necessary letter to commence the work shall be issued and site of work shall be handed over to you thereafter.

Please note that the time allowed for carrying out the works as entered in the tender 9 Months shall be reckoned from the 10 days after the date of issue of this letter.

भवदीय

(सुरेश पाल)

कार्यपालक अभियंता,

एस.आर.डी.मंडल-1

भारत के राष्ट्रपति की और से तथा उनके लिए

### प्रतिलिपि

1. प्रधान मुख्य अभियंता (पूर्व) अनुरक्षण, लो.नि.वि.(दि.स.), एम.एस.ओ. भवन, नई दिल्ली को उनके पत्र दिनांक 01.03.2019 के संदर्भ में सूचनार्थ प्रेषित।
2. अधीक्षण अभियंता (परियोजना), एस. आर. डी. परियोजना, लोनिवि, नई दिल्ली
3. सहायक अभियंता-1, एस. आर. डी. मण्डल-1, लोनिवि, नई दिल्ली।
4. रोकड़िया, एस. आर. डी. मण्डल, लोनिवि, नई दिल्ली।
- ✓ 5. कारर की प्रति।

AMH/2019

कार्यपालक अभियंता  
लो.नि.वि. (दि.स.) स.अनु.मं. एस-241  
लोक नायक सेतु पश्चिमी तट  
नई दिल्ली-110002

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क = PE/लेखार Cont.

1.3.19  
कार्यपालक अभियंता

422

# M I A Construction Pvt. Ltd.

Ref. No. ....

Dated. 06.03.2019

To,

The Executive Engineer  
SRD Project Division-I  
(M-241) PWD, (GNCTD)  
Loknayak Setu,, Yamuna Western Bank  
New Delhi-110002

Sub: Submission of Performance Guarantee.

Name of Work: Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work).

NIT No. 98/EE/SRD-I/PWD /2018-19

Your letter no. -54 (372)//EE/SRD Div-1/PWD/18-19/428 dated 01.03.2019

Sir,

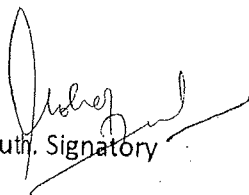
With reference to the above mentioned work we are submitting Performance Guarantee in shape of Bank Guarantee No- 10480003919 issued by Oriental Bank of Commerce, M-1/2/3 Connaught Circus, New Delhi-110001 amounting Rs. 1,39,00,000/- (Rupees One Crore Thirty Nine Lacs Only) dated 06.03.2019

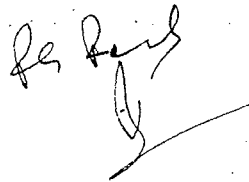
Thanking you.

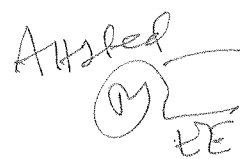
Enclosure:- Bank Guarantee in Original

Yours Faithfully,

For M I A Construction Pvt. Ltd.

  
Auth. Signatory



  
EE

कार्यपालक  
लो.नि.वि. (वि.स.)  
लोक नायक से  
नई दिल्ली

Corporate Office : A-31, Gaurav Apartments, Patparganj, Delhi-110092

Ph. : +911-22244443, +91-9871479639, +91-9811024043

Email : miaconstco@gmail.com CIN : U45204DL2013PTC248344

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सत्यमेव जयते

## कार्यालय

## कार्यपालक अभियंता

शाहजहानाबाद पुनः विकासमंडल-1, लो.नि.वि., दिल्ली  
सरकार, यमुना का अनुप्रवाह, पश्चिमी तटबंध,  
लोक नायक सेतु, आई.टी.ओ.नई दिल्ली-02  
टेलीफोन नं: 011-21400589  
फैक्स: 011-23378274

ई-मेल: cepwddelhisrd@gmail.com



पत्र सं० 54(372)/का.अभि./एस.आर.डी. मं.1/लो.नि.वि./18-19/ 480

दिनांक : 11-03.2019

सेवा में,

M/s MIA Construction Pvt. Ltd.  
A-31, Gaurav Apartments,  
Patparganj, Delhi-110092

**विषय:- Redevelopment of Chandni Chowk from Lal Jain Mandir to Fatehpuri Mosque. (SH:- Civil & Electrical Work).**

**संदर्भ:-** (1) उपरोक्त कार्य के लिए आपके द्वारा दिनांक 06.03.2019 को Bank Guarantee नं. 10480003919 रु. 1,39,00,000/- के रूप में प्रस्तुत निष्पादन जमानत।

(2) इस कार्यालय का संम. मिसिल. पत्र सं० 428 दिनांक 01.03.2019.

महोदय,

उपरोक्त पत्रों के अनुक्रम में आपसे अनुरोध है कि विधिवत अनुबंध के लिए आप कार्य शुरू करने की तिथि से 15 दिनों के अन्दर औपचारिक करारनामा पूरा करने के लिए इस कार्यालय से सम्पर्क करें।

करार सं०	90/का०अभि०/एस. आर. डी. मंडल.1/लो०नि०वि०/2018-19
1 अनुमानित लागत	रु० 38,22,66,940/- (Civil Rs. 33,61,27,639/- + Electrical 4,61,39,301/-)
2 दर प्रतिशत	27.30 प्रतिशत कम
3 निविदित राशि	रु० 27,79,08,065/-
4 कार्य शुरू करने की तिथि	11.03.2019
5 कार्य समाप्ति की तिथि	10.12.2019
6 कार्य पूरा करने की अवधि	9 माह

आपसे अनुरोध है कि कार्य आरम्भ करने व कार्यस्थल को अधिकार में लेने के लिए सहायक अभियंता-1, एस.आर.डी.मं-1, लो०नि०वि०, (दि०स०), दिल्ली से सम्पर्क करें तथा कार्य शीघ्र शुरू करने का प्रबन्ध करें।

(सुरेश पाल)

कार्यपालक अभियंता

एस. आर. डी. मंडल.1, लो०नि०वि०

(भारत के राष्ट्रपति के लिए और उनकी ओर से)

मुल प्रति पर नहीं :-

1. प्रधान मुख्य अभियंता (पूर्व) अनुरक्षण, लो.नि.वि. (दि.स.), एम.एस.ओ. भवन, नई दिल्ली को उनके पत्र सं. 1233 दिनांक 01.03.2019 के संदर्भ में सूचनार्थ प्रेषित।
2. अधीक्षण अभियंता, परियोजना परिमंडल, लो०नि०वि०, नई दिल्ली को सूचनार्थ।
3. कार्यपालक अभियंता (वै), लो.नि.वि., दिल्ली हाई कोर्ट, सी.एंड.डी.सेंट्रल, नई दिल्ली।
4. आयकर अधिकारी, वार्ड नं०-38(3), कमरा सं० 176, केन्द्रीय राजस्व, आई०पी०, इस्टेट, नई दिल्ली-110002.
5. उपश्रम कल्याण आयुक्त, कमरा नं० 337 विधुत भवन, शंकर मार्केट, नई दिल्ली-110001
6. वेतन एवं लेखा अधिकारी-22(दि.स.), 10 वां तल, एम.एस.ओ. भवन, नई दिल्ली।
7. सहायक अभियंता, उपमंडल-1, एस. आर. डी. मंडल.1, लो०नि०वि० (दि०स०), दिल्ली।
8. रोकडिया, एस. आर. डी. परियोजना मंडल-1, लो०नि०वि० (दि०स०), नई दिल्ली।
9. करार सं०. 90/EE/SRD-1/PWD/2018-19.

हस्ता. हस्ता.  
का. अभियंता Cont.

कार्यपालक अभियंता

कार्यपालक अभियंता  
लो.नि.वि. (दि.स.) स.अनु.मं. एम-241  
लोक नायक सेतु पश्चिमी तट  
नई दिल्ली-110002

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